IRON AGE



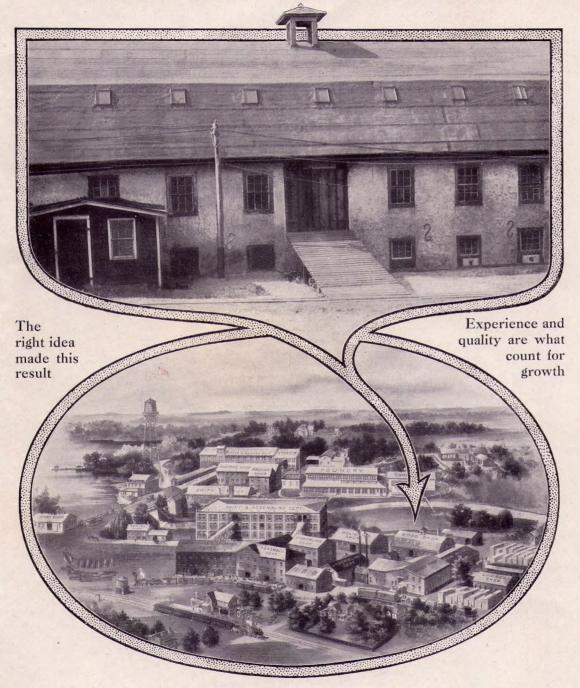
FARMAND GARDEN IMPLEMENTS



BATEMAN M'FG CO GRENLOCH, NEW JERSEY U.S.A.



The Old Mill and the Factory of Today





The Man, an Idea and What Came of It



Stophen B. Leman

Born in New England at the close of the 18th Century, a farmer's son, getting a farmer's valuable experience and training until 1821, with many years learning the ins and outs of manufacturing for farmers' needs, Stephen Bateman founded in 1836 at Spring Mills (now Grenloch), New Jersey, and carried successfully until 1863 (when his sons, Frank and Edward S., succeeded him) the Iron Age business which, in this 20th Century, has grown to such large proportions that it is necessary each year to make extensive additions to factory and equipment. Death came to Mr. Bateman in 1886.

This year, 1911, marks our Diamond Anniversary—seventy-five years of experience, quality, growth. They would have been impossible without Stephen Bateman's early training and right preparation,

his extraordinary inventive genius, his clearheaded and clean-handed business methods, his idea that quality counts above everything elsethat a good tool always commands a market with the right kind of farmers—that a cheap tool is not good at any price. Stephen Bateman built his business on a solid foundation, perhaps better than he knew. The industry started in 1836 with the manufacture of hay and manure forks of many kinds. The potato "drag," which was really the first potato digger, was the work of Stephen Bateman. Hand garden tools with cast iron frame and hoes or teeth, which had to be pulled with a load on them to get deep cultivation, appeared in the early 40's. Hand garden rakes

were made and one horse cultivators with wood frame followed. About 1875 came the famous line of Iron Age wrought iron one-horse cultivators. "Model' drills and "Gem' wheel hoes were added in the 80's and the last fifteen years have produced a complete line of potato and general farm and garden machinery, including riding cultivators, potato planters (Improved Robbins), sprayers, diggers, orchard and beet cultivators, horse rakes (New York Champion), variety machines and the modern line of garden wheel hoes and drills. The business has grown with modest but uniform success year after year and in proportion, as each new part of the line was carefully developed to the entire satisfaction of the practical farmers, truck and home gardeners.

Practical quality does not necessarily mean high-priced machinery but thorough service and durability—machines built to stand the wear and tear of common sense use. "Your money's worth every time" is the principle on which all Iron Age tools have been made.

On the opposite page you can see what growth in the plant amounts to. A new three story shear and machine department is nearly finished, additional shipping facilities are provided and factory machine equipment increased. We will be in position to give the trade quick service. Complete stocks of machines, attachments and repairs are carried at centers of distribution and will be placed early. The following pages give full information as to each machine, prices, etc. We will be glad to have you write us about whatever interests you now.

FRANK BATEMAN, President
E. S. BATEMAN, Vice President
FRED. H. BATEMAN, Sec'y, Treas. and Gen. Manager

BATEMAN M'F'G CO.

GRENLOCH, NEW JERSEY, U. S. A.



Catalog Index, Weights and Price List

Weights and Prices are Given here for Illustrated Implements Only

	acked			Packed		
	Weight Lbs.	Price	Rakes	Weight Lbs.	Price	
No. 1 With Fertilizer Attachment 3	740	\$83.00	No. 1 8 ft. 20 teeth	299	\$25.00	
No. 2 Without Fertilizer Attachment. 3 Attachments 6	670	73.00	No. 2 8 ft. 20 teeth	315 310	25.00 26.00	
Tropachinomos			No. 2 8 ft. 26 teeth	326 314	26.00 26.00	
Riding and Walking Cultiva	ators		No. 2 9 ft. 22 teeth	334	26.00	
		e29.00	No. 1 9 ft. 27 teeth	324 344	27.00 27.00	
No. 50 Fixed Low Wheel, Riding14 No. 53 Fixed High Wheel, Riding15	385 395	\$32.00 33.50	No. 1 10 ft. 24 teeth	326 347	27.00 27.00	
No. 60 Pivot Wheel, Riding	460 465	36.00 36.00	No. 1 10 ft. 31 teeth	333	28.00	
No. 82 Pivot Wheel, Riding 8	450	34.00	No. 2 10 ft. 31 teeth	354	28.00	
No. 83 Pivot Wheel, Riding, Fig. 287 9 No. 84 Pivot Wheel, Riding, Fig. 288 9	440 425	$\frac{33.00}{32.00}$				
No. 86 Pivot Wheel, Riding, Fig. 289 9	445 265	33.00 21.00	Garden Tools			
No. 97 Walking	275	22.00	No. 1 Double and Single Wheel Hoe. 43	40	\$ 7.00	
No. 140 Pivot Wheel, Double Row, Riding16	625	52.00	No. 4 Comb. Wheel Hoe and Seeder 48	55 57	11.00 12.00	
Attachments		Cover	No. 6 Comb. Wheel Hoe and Seeder. 46 No. 8 Hill and Drill Seeder	40	11.00	
Points and SteelsInsi	de Daci	COVEL	No. 9 Single Wheel Hoe	28 15	5.25 2.50	
Horse Hoos Cultivators and I	Jarrow	· C	No. 12 Wheel Plow and Cultivator 52	20	3.50	
Horse Hoes, Cultivators and I	Lailow	3	No. 15 Comb. Wheel Hoe and Seeder50 No. 17 Comb. Wheel Hoe and Seeder51	45 45	11.00 10.00	
No. 1 Cultivator, plain, Fig. 1022 No. 1 Cultivator, 7 tooth, Fig. 5722	50 73	\$3.40 5.45	No. 19 Wheel Plow and Cultivator 53	. 22	3.25 3.50	
No. 1 Horse Hoe and Cultivator, Fig.			No. 19C Wheel Plow and Cultivator53 No. 20 Single Wheel Hoe50	28	6.00	
No. 1 Comb. Harrow and Cultivator,	89	6.50	No. 22 Comb. Fertilizer Distributor and Seeder	65	18.00	
with plain wheel and lever expander, Fig. 10625	66	5.25	No. 23 Comb. Fertilizer Distributor, as	40	13.00	
No. 5 Orchard Cultivator, Fig. 7022	80	7.50	No. 25 Fertilizer Distributor	28	8.00	
No. 6 Horse Hoe and Cultivator, Fig. 160	83	6.50	No. 26 Fertilizer Drill	40	8.50	
No. 6 Horse Hoe and Cultivator, with plain wheel and lever ex-			Disc Cultivator49	41 50	7.50 8.00	
pander, Fig. 10019	78	6.00	"New Model" Seed Drill55 "Advance" Fertilizer Drill57	46	6.75	
No. 6 Horse Hoe and Cultivator, with plain wheel and lever ex-			"Gem" Single Wheel Hoe54 "Gem" Double Wheel Hoe54	25 30	5.00 6.00	
pander, Fig. 10220	70	5.25	Attachments45			
No. 6 Cultivator with Furrow-Closing Attachment, Fig. 7120	76	7.00				
No. 7 Horse Hoe and Cultivator, Fig. 161	80	7.50	Variety Machines			
No. 8 Horse Hoe and Cultivator, Fig. 157	81	7.50	No. 90 As a Row Maker	360	\$46.00	
No. 35 Beet Hoe and Cultivator, Fig.			No. 90 With Seeding Attachment 58	390	52.50	
No. 36 Horse Hoe and Cultivator, Fig.	70	7.00	No. 90 Complete, with Marker, Fig. 346	450	60.00	
No. 37 Cultivator, plain, Fig. 163 24	65 43	5.15 3.10	No. 91 Asparagus Ridger	305 350	30.50 29.00	
No. 38 Beet Hoe and Harrow25	82	6.75	No. 145 Asparagus Ridger and Leveler 59	358	42.00	
Attachments	ide Bac	k Cover				
Orchard and Beet Cultivators						
Sprayers			N. 45 D. (0.10)	145	\$10.00	
No. 102 Four Row	760	\$73.00	No. 47 Beet Cultivator	145	\$19.00	
No. 105D Four Row	850	95.00	No. 110 Orchard and Variety Cultiva- tor60	465	34.00	
bined29	81	125.00 15.00	No. 112 Orchard Cultivator, with Ex-			
Six-Row Attachment29 Other Attachments30	01	15.00	tension60	540	42.00	
Potato Diggers			Miscellaneous			
No. 125 Low Down	1015	\$90.00	Barrel Truck with Barrel, Steel Wheels,	150	\$10.75	
No. 126 Elevator Attachment34 No. 127 Comb. Low Down and Elevator 35	1290	$15.00 \\ 105.00$	Hand Cart, Leaf Rack and other	100	\$10.10	
No. 128 Elevator Digger	1200 151	100.00	Small Farm and Garden Tools63			
No. 150 Elevator Digger		75.00	Row Index64		1.00	
Other Attachments36	A STATE OF		Harness Brackets, per set64		1.00	
Complete stocks of machines, attachments and repairs carried at centers of distribution.						



Economical Potato Planting

If you are going to raise potatoes, be sure you plant every seed piece and get the full benefit of ground, seed and your labor

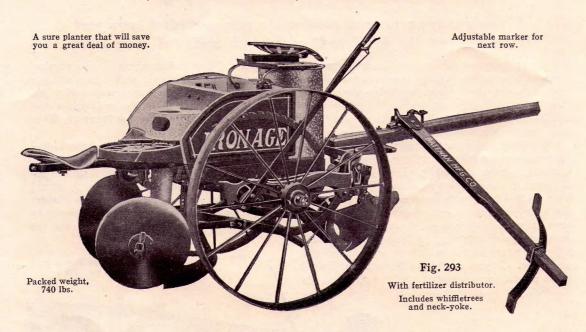
It costs no more to cultivate, fertilize, spray and dig a perfect stand than it does where hills are missing. There is no possible way that you can get all the seed into the ground except with a man and boy machine or plant by hand entirely—surely no one is going back to the latter way. Not less than 5% is lost by any strictly machine planting and in most cases 10% to 20%. Figure your loss even at 5%—how much of it will it take to pay for the boy on the rear seat of an Iron Age Planter? Even here, the machine does the planting and the boy simply makes corrections.

Just look at the matter straight—you won't be long deciding in favor of the man and boy machine—the extra expense is such a trifling thing and the result so sure—dollars gained, better looking rows, no waste land, material or labor. Is it economy to save your labor at the beginning and waste it all through the season? Is it economy to waste your seed in doubles and injured pieces with a one man machine? Start right—these words mean something to you as a practical man and an Iron Age Potato Planter will help you do it. A convenient tool to operate—will wear a long time—takes many attachments to meet extreme conditions and do special work, such as corn, bean and pea planting, side dressing the





(Improved-Robbins) Potato Planter



No. 1—Fig. 293, with distributor and shield plow ... \$83.00
No. 2—Fig. 294, without distributor, with shield plow 73.00
No. 3—With distributor and shield plow ... 83.00
No. 4—Without distributor, with shield plow ... 73.00

Nos. 3 and 4 are exactly like Nos. 1 and 2, except that they are fitted to plant large cut seed, not less than four ounces.

No. 1A means equipped with opening plow, Fig. 142, page 6, at same price.

No. 1B means equipped with opening plow, Fig. 218, page 6, at same price.

A machine planter that provides a place for the boy who simply corrects doubles and misses. With the boy on the rear seat you can be absolutely sure that a seed piece is in every place and one only.

A planter that does not injure the seed, although it is all handled automatically.

A planter that places every seed piece exactly as you want it.

A planter that sows fertilizer at the same time but none of it where it touches the seed.

Light weight, light draft, strong, compact—it is easy on the horses and will last as long as you

MUNAL

Fig. 294
Without fertilizer distributor. Includes whiffletrees and neck-yoke. Packed weight, 670 lbs.

easy on the horses and will last as long as you care to have it, if properly taken care of. It has a record of many years' perfect planting—at least twenty-five thousand users are sure that they have the only perfect planter made.

Furnished with or without fertilizer attachment. (Figs. 293-294.)

Three different styles of furrow opening plows are made—you can have your choice—soil is loose on each side of the furrow, no packing. The plow usually shipped with each planter has a steel shield, as shown in the cuts on this page—it divides the soil for the plow and warns the driver when it strikes "fast" rock, to release the lever so the plow will pass over. The shield will prevent clogging in somewhat trashy ground, but either flat or concave discs are provided for extreme cases. (Figs. 142 and 218 on page 6.) Plows can be set for depth.

IRON AGE BATEMAN MFG.CO GRENLOCH, N.J., U.S.A

(Improved-Robbins) Potato Planter-Continued

over the tube and drops it in the groove in the furrow-all this work

has been done by the machine auto-

Feeds and drops the seed without injury and in the right place every time.

Fig. 325 shows the hopper where the seed is placed—the bottom is separate and cut out in the center. In operation, it is agitated from underneath—this shakes just enough seed through, under the

wooden fenders, into the pockets of the elevator wheel, which in turn drops it through a short spout to corresponding pockets of the feed wheel. No pickers are used and so the seed is not injured. The feed wheel carries each seed piece

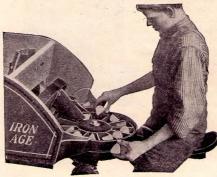


Fig. 186

The only way you can make sure—corrects doubles and misses—earns his way 10 to 20 times.

The only hand work on the machine

Elevator wheels. Fig. 329. To accommodate different sized seed, we furnish with each planter, three kinds of elevator wheels (including the one in the machine). On Nos. 1 and 2 Planters the one for small seed is No. P-180; medium, P-179, and large, P-181.

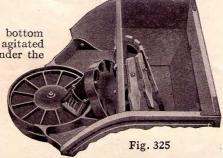
When ordered, we will substitute either No. P-184 for still smaller

seed or number P-183 forlarger seed,

regularly furnished. On Nos. 3 and 4 Planters, the regular wheel for small seed is No. P-179; medium, P-88; large, P-87. Special for very small seed, No. P-180; for very large seed, P-86. These numbers are for 1910-1911 and should not be ordered for older The operator must tell by trial which wheel to use. If feeding too fast, use a wheel with smaller sprockets, etc.

or both for a like number of elevator wheels

Distance spacing sprockets. Fig. 330. With each planter we send six different sprockets (including the one on the machine) which will space seed 12, 14, 151/2, 17, 181/2 or 20 inches We can substitute for any of these when ordered, one that will space the seed 24 inches apart. Fig. 330 also shows three extra sprockets and extra chain links, to regulate feeding of fertilizer.

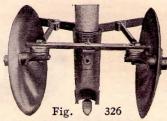


No injury to seed handled in this way. All of this work is automatic

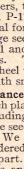
matically, but the boy in Fig. 186 must see that there is a seed piece in each pocket of the feed wheel and one only. If all of your seed has been cut the same size, the boy will not have much to do but watch—the machine would feed 60% to 90% without help, depending on the cutting of the seed. With the boy, you know that every space has seed in it. If the seed starts and grows properly, you will have a perfect stand and more potatoes—no misses, no doubles, no trouble on hillsides.

In Fig. 187 you can see the small wedge-shaped groove in bottom of the furrow where the seed drops-this groove, $\frac{3}{4} \times 1$ inch, is made by a shoe, the rear part of which is seen in Fig. 326, at bottom of potato tube boot—seed is kept in a straight line and planted at even depth, making the crop easy to cultivate and dig. The boot

carries the shoe and is adjustable so that you can plant deep or shallow. Fig. 326 also shows the covering discs which can be set for width, angle and depth cover thoroughly—from each side
—no "greened" potatoes after
Iron Age planting. The discs
ridge the crop, if you wish, and in any shape.



Adjust discs at any angle and width and the boot at any depth. See, also, shoe for seed groove



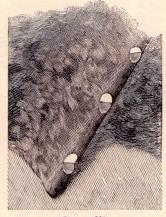


Fig. 187 Potatoes don't roll in this groove. Straight rows, even spacing



Fig. 329



(Improved-Robbins) Potato Planter-Continued

The fertilizer distributor is operated on a novel plan which has proved entirely satisfactory to "Iron Age" planter men.

A winged scraper (see Fig. 328) is placed on top of the fertilizer—it drops by its own weight as the material feeds from under it. An agitator shaft with steel cross pins (the shop boys call it a Christmas tree) revolves the scraper and keeps a column of space open in the center so the fertilizer will fall light and loose on the cone at the bottom of the can, where a disc and feed wheel force it to the spreader. An adjustable gate lever, operated from the seat, regulates the amount and saves waste when turning at the ends of rows.

The fertilizer does not touch the seed—see Fig. 327 where are shown shield plow, fertilizer spreader, seed shoe and potato tube.



Fig. 327

From the right note opening plow, fertilizer spreader, seed shoe and potato tube. Fertilizer does not touch seed

that is necessary and from the seat, too. Note in this side view of plow and potato shoe, adjustments for their working depth. The lever can be set to allow for the different changes of plow and

shoe and for "dead furrows" or "backings. The wheels are steel with wide, slightly concave rims—they are interchangeable and have removable

ratchet hubs which are cheaply replaced when worn.

Making up cabbage rows. You can mark and furrow, sow the phosphate and hill perfectly and economically. Simply remove potato tube and economically. shoe when doing this work.

The fertilizer is spread in a 6 or 8 inch stream across the furrow just back of the plow-then the seed shoe cuts a groove in the bot-tom of the furrow, throwing the soil and fertilizer to each side, mixing them at the same time-the seed drops into the groove below the fertilizer.

Fig. 331 shows the one lever-it throws the clutch that shuts off seed and fertilizer, at the same time raising the entire gang clear of the ground. When you come to a stone or when turning at the ends of rows this one lever does all

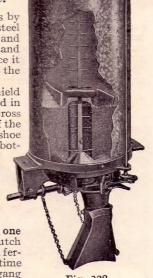


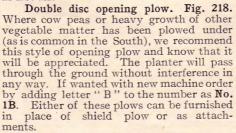
Fig. 328 Distributes all kinds of fertilizers thoroughly and without waste.



Attachments

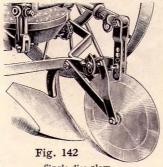
Single disc opening plow. Fig. 142. For use in extremely trashy ground and long vines—a sharp disc does better work under these conditions than the shield plow, and also gives the plow more chance to scour—this makes draft lighter. If wanted on new machine, order by adding letter "A" to the number,

as No. 1A.



Shield opening plow. Furnished as an attachment when ordered. Fig. 331 shows it but only parts necessary to change from Fig. 142 or Fig. 218 are sent. Price, \$3.75. Price, attachment only - - \$





Single disc plow Price, attachment only - - \$3.75

IRON AGE BATEMAN MFG.CO GRENLOCH, N.J., U.S.A

Attachments for (Improved-Robbins) Potato Planter-Continued Corn, Bean and Pea Attachment. Fig. 267



For corn and beans

Seed plates for corn, beans, peas Price, attachment complete, \$5.00

Fig. 267.

The machine complete with this attachment opens the furrow, spreads fertilizer, makes groove for the seed and sows

it, then covers flat or in ridges, as you please.

To drop seed farther apart, we pro-vide extra set of

Fig. 357

plates shown in Fig. 296. They are same as regular plates except that alternate holes are plugged, leaving but half the

number in each case and seed can be dropped at 24, 28, 31, 34, 37 or 40 inches apart. The set will be furnished in place of the regular plates in Fig. 267, when so ordered, or extra at price noted.

Fig. 296

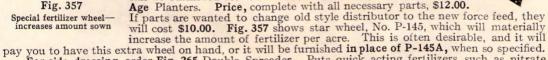
Double distance seed plates. Price, per set, \$2.00

For smoothing and leveling rows, you will find Fig. 295 well worth the

Fertilizer attachments (Fig. 328) Price, attachment only, \$1.50 can be furnished for old or new Iron

Age Planters

Price complete visit in the price of the pric



Iron Age planter. The potato tube and boot are removed when using the ridger.

For side dressing, order Fig. 265 Double Spreader. Puts quick acting fertilizers, such as nitrate of soda, where they will do the most good—on each side of the growing crop. This forces the crop to early maturity, and you can get to market when prices are high. This has become a common practice with market gardeners. The crop is more

tender and has a readier sale. Our fertilizer distributor handles nitrate of soda in good shape. The holes at top of spreader will adjust it so that fertilizer will fell in the section. fertilizer will fall in the center and be divided evenly, no matter how much you sow. For machines built previous to 1910, order spout with spreader. Price (complete)

With special ridging attachment, Fig. 266, you can ridge your potatoes at the same time you are side dressing the plants. Many growers in Maine find this necessary. The attachment can be furnished for any



Fig. 265

Solid part shows attachment for 1910-11.
Price, \$1.25

Dairymen sow fodder corn and make-up rows for root crops with it. An all-round, practical, handy attachment that saves buying two machines. work is entirely automatic—you simply set for the right

Truckers use it to sow

succession plantings.

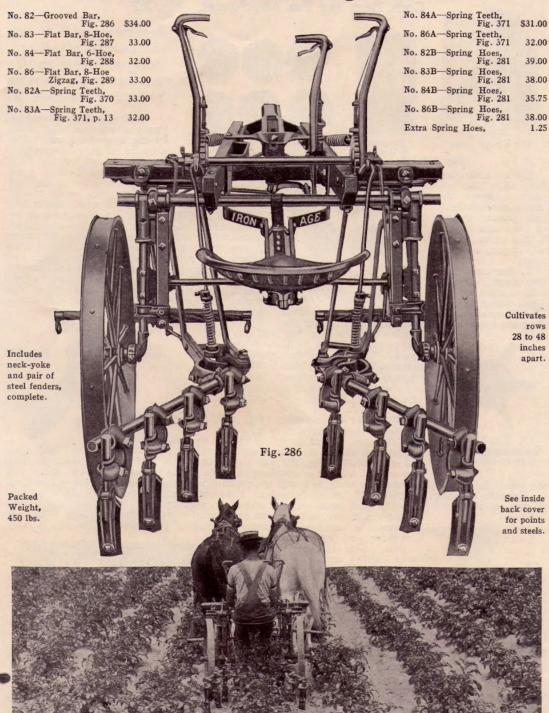
amount of seed and keep the can filled. The attachment is used in place of the feed wheel on the planter. Sows corn, beans or peas in continuous rows. Drops corn or beans in hills at 12, 14, 15½, 17, 18½ or 20 inches apart or, by using on feed wheel shaft, one of the small extra sprockets for fertilizer attachment (Fig. 330, page 5) you can drop seed closer than 12 inches. The attachment includes galvanized can, frame and adjustable brush which pushes extra seed from the openings in the seed plates-an adjustable gate which regulates flow of pea seed—set of six plates, five for corn and beans, and one corrugated plate for peas.

Fig. 295

Solid parts show special ridging attachment for working astride rows



No. 82 Pivot Wheel Riding Cultivator





No. 82 Pivot Wheel Riding Cultivator



A successful low, pivot wheel riding cultivator for the potato farmer, general farmer and truck gardener. It is successful because

it can be easily set for use in a wide variety of crops, because it has a very wide range of adjustments for rows and to meet extreme as well as ordinary conditions, because it is as easily guided by man or boy in hilly country as on level fields, because it is proving to be a long lived machine, because of its variety of equipment.

No. 82 has grooved-bar pivoted gangs, but Figs. 287,288 and 289 show three sets of flat bar, rigid gangs which make No. 82 into complete machines, Nos. 83,84 and 86, respectively—the only difference is in the gangs and the farmer can purchase any of them extra, giving him two or more machines in one.

machines in one.

Other combinations that can be made include brake-pin hoes as regularly furnished, spring hoes, Fig. 281, or doubly adjustable spring teeth, Figs. 370 and 371. Then, there are eight or more attachments with which to meet special



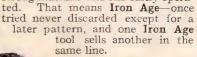


Fig. 370
For grooved bar
Adjusts for width
and depth

For flat bar

see page 13



Fig. 281
Price - - \$1.25

No. 82 with long grooved bars and six narrow points. For light soils only. Note perfect farming of crop and soil.



IRON AGE 1836 1917 BATEMAN MFG.CO. GRENLOCH, N.J. U.S.A.

No. 82 Pivot Wheel Riding Cultivator—Continued

No. 82 is a pivot-wheel machine—easily guided with the feet on rolling or hilly ground and can be turned short at ends of rows. The wheels are easily guided because

pivots (Fig. 322) are fastened low on the pivot axle, near the center of the wheel and hardened steel ball bearings, placed at top of pivot axles, carry the

Ball bearing for pivot axle

See also lubricating cup and sand cap

weight of the tool and prevent friction. One piece axles are used—cannot get loose. For work in fallow ground, or when on the road, wheels can be fixed in position by dropping a pin in a hole in the gang connecting bar.

pin in a hole in the gang connecting bar.

The steel wheels are 32 in, with 2½ in, channel tires, staggered spokes, dust-proof hub and lubricating cup (see Fig. 359 and description on page 13). Oval tires furnished when ordered.

No. 82 pivoted gangs (Fig. 321) have round grooved steel bars on which the tooth holders slide and are adjusted at any position. By adjusting the hinged bars and moving your points, you get thorough cultivation and yet keep the ground level. By using narrow points, which are furnished extra, you can work the full number in narrow rows, or can have long bars and six narrow points if desired (see cut. bottom of page 9).

narrow rows, or can have long bars and six narrow points if desired (see cut, bottom of page 9).

These should be used only in light soils. The tooth standards are steel bars, clamped to the bar by eye bolts. They can be set to cut at any depth in any part of the row or to throw the soil to or from the plants. 2½ in. points are furnished regular, but 1¼ or 3½ in. can be had when ordered (see inside back cover).

With adjustment of the hinged bars, and wheels from 32 to 42 in., you can cultivate rows 48 in. apart or at any distance down to 28 in., or even narrower when narrow points are used.

Gangs are adjusted by a lever in front and while the team is in motion. They can be adjusted for two or more crops in the same row, without stopping and without injury to either crop. The points are always squarely to the front because the gangs are moved in parallel lines.

A boy can lift the gangs easily with the help of powerful springs. Tension springs are locked down to hold the points to their work but not so the gangs cannot lift before they are damaged by obstructions.

The seat support can be adjusted for height and angle. A nice balance for light or heavy men is kept by means of a little adjustment of the forward end of the pivot stay brace. There is direct draft as the horses draw from each gang. A steel evener is used and the pole can be adjusted for height.



Fig. 117. Per pair, \$0.75 For Spring Teeth, per pair, \$2.25

and for preparing land in the fall for grain. The extra tooth cuts the ground not cultivated by the regular gangs. May be used on all riding cultivators but it is necessary to give number and style of machine.

Disc attachment. Fig. 118 is used for ridging, for turning the soil from growing plants and for covering. It is not used on No. 50 series, but all other riding cultivators except Nos. 82 and 82-A take No. 1 attachment. No. 82 uses No. 2 and No. 82-A takes No. 3.

Attachments

Plows shown in Fig. 117 are used for hilling crops or covering. They are made to fit all riding cultivators with break pin or spring hoes. For cultivators with spring teeth, special standards and holders will be needed (specify number and style of machine).

Fallow tooth attachments are applied between the gangs when the cultivator is used in orchards,

Fig. 321

Grooved bar

Pivoted hinge Range of shift





Fig. 118
Nos. 1 and 3, \$3.50. No. 2, \$3.00

IRON AGE BATEMAN MFG.CO GRENLOCH N.J.US.A

Attachments for Riding Cultivator-Continued

Hilling attachment. Fig. 261. These shovels are used on all riding and walking cultivators and horse hoes with entire satisfaction. They will hill crops, take away soil from the plants, and cover furrows.

Double Row Extension. Fig. 147. For cultivating at one time two rows of



Fig. 261 Price, per pair, \$1.00

beans, potatoes and other crops planted equally close. The team straddles one row and this attachment cultivates close to the next row on each side—in other words you cultivate all of the two middles in rows up to 33 inches wide. Does not leave open furrows next to the crop, as the extra outside tooth is ahead of the rear tooth on the regular gang. Also valuable for fallow work and cultivating very wide rows, up to 59 inches apart. Used on No. 82 only. Can be furnished with spring tooth when so ordered.

Fig. 147 Price per pair, \$3.25

Star Fender attachment. Fig. 285 will be furnished when ordered, without extra charge, for any Riding Cultivator in place of the regular sheet steel fenders which go with every machine sent out.



Solid part shows star fender attach-ment. Price, \$1.00

Tobacco attachment. Fig. 283 shows it applied on No. 60; takes two to work it, one on the upper seat to drive and the other fellow sits behind to operate independent gangs in tobacco and other crops where it is desirable to work close to the plants and between the hills, get perfectly level cultivation and keep weeds out. Each of these independent gangs has three narrow, reversible diamond-shaped teeth (Fig. 87, page 25) with cultivator tooth forged on one end and harrow tooth on the other. One or more teeth can be

taken off-trashy soil may make it necessary to use but two.

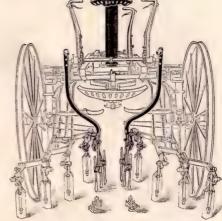


Fig. 283

Solid parts show tobacco attachment applied to No. 60. Price, attachment only, for Nos. 82 or 60, \$5.00

Each independent gang pivots in front and tension springs keep them in the ground—gangs are raised easily at ends of rows. The attachment is constructed so that the front inside cultivator teeth can be set forward where they break up the soil ahead of the narrow teeth-heretofore they could not be used at all. Can be applied to Nos. 82, 83, 84 and 86 Riding Cultivators, but it is necessary to specify kind of machine in each case.



Fig. 284

Solid parts show disc ridging attachment on No. 82 Price, attachment only, \$10.00

ridge than is possible by the use of plows or regular disc attachments. It is simply a larger and stronger equipment than the disc attachment. It is applied

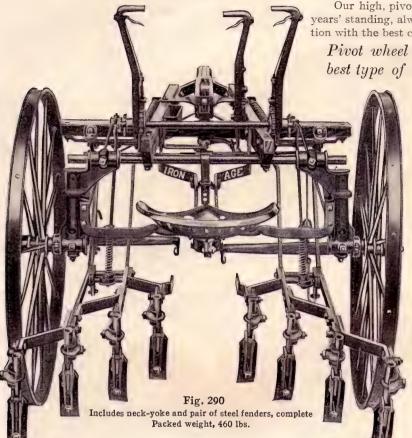
in place of the cultivating gangs-has 20 inch discs, adjustable for depth, width of ridge and angle at which they are set. This attachment is especially valuable in that part of New England where high ridging of potatoes is practiced. Is made for No. 82 but can be furnished for Nos. 83, 84 and 86 when ordered.



No. 82 with 20-inch disc ridging attachment



No. 60 Pivot Wheel Riding Cultivator



Our high, pivot wheel machine, of many years' standing, always in successful competition with the best class of cultivators.

Pivot wheel cultivators mean the best type of a practical machine

> for the farmer who has to cultivate on side hills, work in very crooked or irregularrows, or who wants or needs to save space for turning at ends of rows.

The operator guides the machine by his feet, swinging the gangs with the wheels to right or left. In turning at the ends swing the wheels away from the team and the machine will be carried quickly into position for the return row. If you have never used a pivot wheel machine, try it at first with a slow, steady team.

The wheels are 42 inch, with staggered spokes, and channel tire

to prevent slipping on hillsides. They can be set 50 inches wide or closed to 39. This represents the range of cultivation. Sand- and dust-proof hub. Fig. 359. The cup or cap at the outer end is filled

with grease which is forced the axle's length with each turn of

the cup on the threaded hub.

Grease also fills a small chamber in hub box and prevents heating. A hinged ring holds the wheel in place-to remove wheel simply take out the one bolt from the ring. Also, note hardened steel ball bearing at lower end of the upright shaft of the pivot-carries the weight without friction and makes guiding easy. For fallow work or when on the road, it is necessary to "fix" the wheels (make them stationary)—this is done by a thumb screw on the gang connecting bars.

No. 60 - Spring Pressure Lock-Down, Fig. 290 - -

No. 61-Chain Lift in place of Lock-Down -

No. 62-6-Hoe Gang and Lock-Down - -

No. 63-8-Hoe Zigzag Gang, see Fig. 368

No. 60A-Spring Teeth, Fig. 371

No. 61A - Spring Teeth, Fig. 371

No. 62A-Spring Teeth, Fig. 371

No. 63A-Spring Teeth, Fig. 371

No. 60B-Spring Hoes, Fig. 281

No. 61B-Spring Hoes, Fig. 281

No. 62B-Spring Hoes, Fig. 281

No. 63B-Spring Hoes, Fig. 281

Extra Spring Hoes



\$36.00

35.00

34.00

36.00

35.00

34.00

33.00

35.00

41.00

40.00

37.75

41.00



No. 60 Riding Cultivator

The gangs are flat steel bars, put together so as to give the greatest strength—made rigid so they will not give when working. For potatoes and other close grown crops, take off outside section of each gang, leaving six points. The inside row sections can be removed if desirable in heavy crop.

Equipment. No. 60 is furnished with eight or six hoes and spring pressure lock-down or with eight hoes and chain lift in place of the lock-down or with spring teeth (Fig. 371) or spring hoes (Fig. 281). Also, with pair of gangs (Fig. 368) similar to those on No. 86—they have the teeth placed to give better clearance for trash or for soil which has not been thoroughly broken up and pulverized. Should be ordered as No. 63 Riding Cultivator.

Point standards are steel bars, securely held in place with eye bolts and can be adjusted separately for depth or angle, or removed by loosening one nut. You can throw soil to or from the crop and regulate your depth according to the growth of your plants. The regular points are $2\frac{1}{2}$ inches but $1\frac{1}{4}$ or $3\frac{1}{2}$ inch can be had when ordered. (See list, inside back cover.)

The adjuster lever changes instantly the distance between the gangs for different growths of the same crop



or light and heavy crops in the same row, while the team is in motion.



Shifting the lever does not change the angle of the points and no matter where you shift the lever, the crop is always in the middle

Spring lift. Powerful springs help in lifting the gangs—a small boy can do it easily. Both gangs can be raised with one lever by putting steel pins through lever and shaft. Tension springs are locked down to hold the teeth to their work but

springs are not so strong that the gangs will not lift before they are damaged by obstructions. By loosening a small collar, pressure is released and the gangs can "float" if desired.

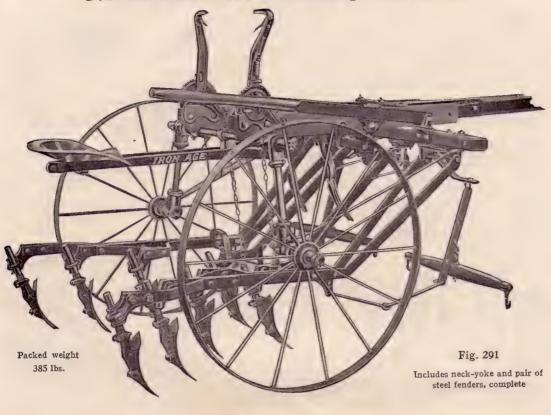
No. 60 has short, straight, steel axles, each held in place by one bolt—cheaply and easily replaced when worn.

The seat support is adjustable in height and angle. As on No. 82, a nice balance for light and heavy men is kept by means of a little adjustment of forward end of the pivot stay brace. The horses





No. 50 Fixed Wheel Riding Cultivator





No. 50 Fixed Wheel Riding Cultivator

No. 50 -Chain Lift, Fig. 291 - 5	\$32.00
No. 51 -Lock-down	34.00
No. 52 -Without side lever and	21 00
yoke	31.00
No. 53 -Chain Lift and high	
wheels, Fig. 292 -	33.50
No. 54 -(Same as No. 52 with	
high wheels)	32.50
No. 50B-Spring Hoes	
No. 51B-Spring Hoes	39.00
No. 52B-Spring Hoes	36.00
No. 53B-Spring Hoes	38.50
No. 54B-Spring Hoes	37.50
Extra Spring Hoes	1.25

Market gardeners (and general farmers) will find No. 50 to be a thoroughly practical and easily operated machine, when used on level or slightly rolling ground.

Because it is a fixed wheel machine, it is not as good for side hill work.

Choice of equipment. Either regular 36-inch flat or 42-inch channel steel wheel

(same as on No. 60) can be had. Furnished with simple chain lift or with lock down or less the side lever and yoke. Also with spring hoes (Fig. 281) in place of the break pin hoe as shown in Fig. 291. This cultivator cannot be equipped with spring teeth.

Can cultivate any width rows from 39 to 52 inches apart. The wheels are adjustable for these distances.

The gangs are made of flat steel bars and put together in such manner as to give greatest strength and remain rigid. The outside gangs are fixed in front and securely braced—are adjustable in slots in the cross bar to suit the various width rows. The rear outside section of each gang can be removed—it is sometimes necessary to work with six hoes in narrow rows.

The old way of guiding gangs was by the feet and hard, unsatisfactory work—took away all the pleasure there was in having a riding cultivator. The No. 50 way is to have a patent—

Gang lever. This is a valuable arrangement that does away, almost entirely, with the guiding of gangs by the feet. Shifting the lever to right or left works the independent teeth around the misplaced hills or bushy plants, and depressing the lever brings the independent teeth together between the hills, cultivating all the space and close to the plants. This is not attempted on any other rider and many truck gardeners want just this sort of a machine for exact work among small plants. The independent gangs have foot loops which can be used where both hands are needed for driving, as at ends of rows or with unsteady team, or when machine is used without the side lever and yoke that controls the independent gangs.

fenders, complete.

No. 53. With high wheels and short arches. Packed weight, 395 lbs.

Fig. 292

Includes neck-yoke and pair of steel

A chain lift raises and carries the gangs at the proper height. Ordinarily the feet give any extra pressure on the gangs that may be needed. We furnish, when ordered—

281.

Spring pressure lock-down, like those on Nos. 82 and 60, to hold the teeth in the ground with as much pressure as needed, but the pressure is not strong enough to hold the teeth until they break, when they strike an obstruction.

The tooth standards are the same as used on Nos. 82 and 60 cultivators and have the same adjustments for depth and angle.

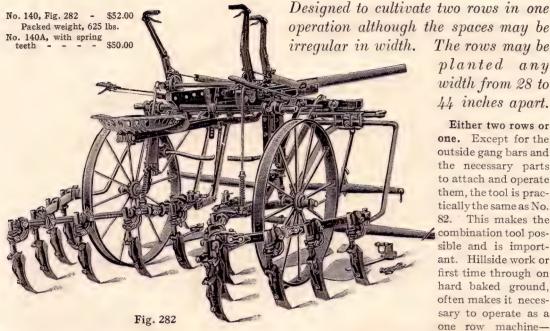
The cultivator points sent out with new machines are $2\frac{1}{2}$ inches wide but we can furnish, when ordered, points $1\frac{1}{4}$ and $3\frac{1}{2}$ inches wide. (See list on inside back cover.)

The seat support is adjustable in height and angle. A steel evener is used and the draft is direct from each gang.

Attachments. No. 50 takes Figs. 117, 140, 261 and 285 shown on pages 10 and 11.



No. 140 Combined Double- and Single-Row Pivot Wheel Riding Cultivator

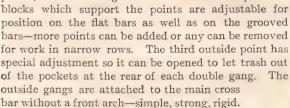


planted any width from 28 to 44 inches apart.

Either two rows or one. Except for the outside gang bars and the necessary parts to attach and operate them, the tool is practically the same as No. This makes the combination tool possible and is important. Hillside work or first time through on hard baked ground, often makes it necessary to operate as a one row machine-

saves draft and you get around easier. The change to either form is made quickly by simply removing or attaching the outside sections.

The gangs are grooved bars for the inner sections (as on No. 82) and flat steel, outside, with three points, and bars hinged back of the second point-it is easier to shift the front section only. The



A separate, horizontal lever shifts the outside sections—you can cultivate as close to the plants as you please. No crops will be knocked down in turning at the ends of the rows.

The point standards are same as used on other Riding Cultivators-adjustable for depth and angle. Regular points 2½ inches—1½ inch furnished for small plants or in narrow rows.

Attachments. No. 140 takes Figs. 117, 118, 140, 261, shown on pages 10 and 11. In ordering, please specify that they are wanted for No. 140.



IRON AGE 1836 BATEMAN MFG.CO. GRENLOCH, N.J. U.S.A.

Two-Horse Walking Cultivator

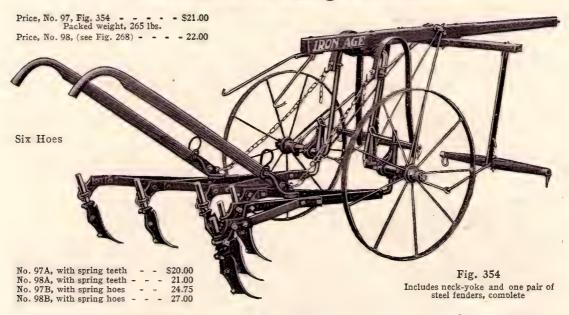


Fig. 281

Fig. 371

For flat bar gangs

Two adjustments—for depth and width

On steep hillsides, on very rough, stony or stumpy ground, it will be found necessary, in most cases, to use a walking cultivator.

Many farmers want a lower priced machine than the Riding Cultivators. We have what they want—a first-class tool in every respect.

We make only flat bar walking cultivators with six hoes No. 97 (Fig. 354), and with eight hoes No. 98 (Fig. 268). The gang bars are flat steel, securely braced. Standards are the same as on riding cultivators—with break pin hoes as the regular equipment. Spring teeth and spring hoes are furnished when ordered. The standards are adjustable for depth and

are adjustable for depth and angle, and teeth give special wear, because they are upset just back of the points. Gangs can be set to cultivate rows from 36 to 42 inches apart, adjustment being made at the head.

A spring lift helps the man

at the handles to balance the gangs easily and quickly—the springs are flat steel, curved at the top and connected at the gang heads by straps—these adjust the tension which is easily changed by lifting gang from the ground and moving the spring key to the desired hole.

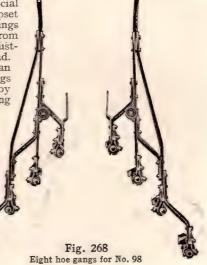
Every time you turn the end of a row, you will appreciate the help of these springs.

When on the road, the gangs are hung up on hooks at end of pole.

Cultivating depth is regulated by taking up or letting out chains, and by pressure on the handles. The latter can be adjusted at any angle.

The wheels are steel, 30 inch, with 1½ inch tires. They run on steel axles, which also form the gang heads and arches on each side.

Attachments. Figs. 117, 118, 140, 261 and 285 on pages 10 and 11 can be used on these machines.





Horse Hoes, Cultivators and Harrows

The one horse tool is not the least necessary of the modern farmer's machine equipment. Many farmers cannot use riding cultivators to advantage—most farmers find many times and many places where the one horse machine is more convenient, more practical and more economical.

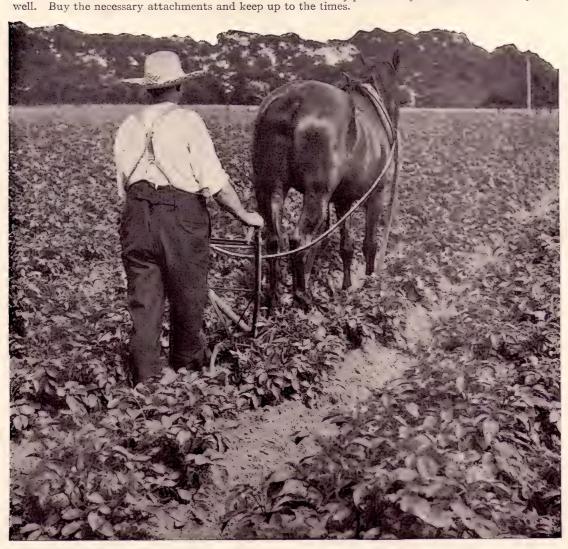
We have yet to hear of a dissatisfied customer out of the hundreds of thousands of these tools put out. Many have seen more than thirty years' service and are still in good condition.

"My cultivator does just what I bought it for," writes one man—another says "the adjustments are fine for each one of my crops and the tool runs steady and level" (he used it in potatoes, corn, beans, peas, tomatoes, melons, blackberries)—still another says we regard it as the best single plow on the job. Material and workmanship are strictly up to the Bateman idea."

job. Material and workmanship are strictly up to the Bateman idea.

We make a complete line with a great variety of equipment—every farmer can have just what he needs to do his work and he can get attachments at any time to do new work or meet new conditions.

In most cases these attachments are made to fit not only present day machines but old style as



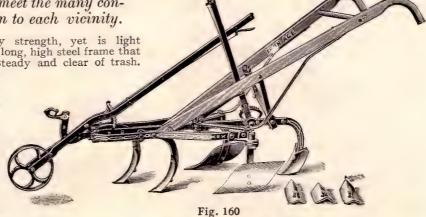


No. 6 Horse Hoe and Cultivator

Can be adjusted for a wide variety of uses, and to meet the many conditions common to each vicinity.

It has the necessary strength, yet is light and compact. Has a long, high steel frame that makes the tool run steady and clear of trash.

The hoe standards are solid steel, securely attached to the frame bars by malleable ratchet castings. These give several easy adjustments to the side hoes, both sidewise and at dif-ferent angles. They can be reversed for hoeing or changed from side to side with points forward, for covering. (See Fig. 104, on page 21.) The



Packed weight, 83 lbs. Price, \$6.50

Fig. 372 A strong lever ex-pander that gives quick action

on the hoe standards. A lever expander, Fig. 372, changes the tool instantly, while in motion, from extreme width to the narrowest position. It has a

Horse Hoe when used as a cultivator, expands to a width of 30 inches and closes to 14, sufficient for ordinary purposes. The ratchet castings can be placed, reversed, on the inside of the bars, bringing the side hoes together, as in Fig. 80, for opening furrows for manure, etc. Cultivator teeth, attached in this position, are 11 inches apart—the teeth are carried

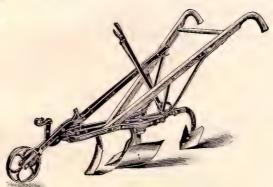


Fig. 80 No. 6 shown as a Furrower

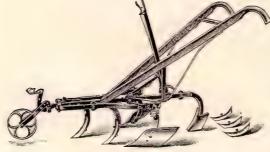


Fig. 100 No. 6 Horse Hoe and Cultivator, plain wheel Price, \$6.00

pair of double steel expander bars and long steel lever, placed in easy reach, and with its malleable connections, is perfectly fitted and pivoted to work smoothly—is strong, simple, rigid and has stood the test of many years without change.

Fig. 160 shows the tool with lever wheel. The steel lever is attached to forward part but the handle is in easy reach—with it you can regulate the working depth while the tool is in motion—a good time-saver in the busy season.

Fig. 100 shows the No. 6 with lever expander but with plain wheel in place of the lever wheel.

IRON AGE

No. 6 Horse Hoe and Cultivator

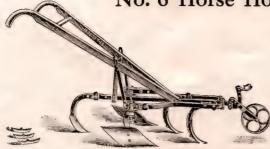


Fig. 102 No. 6 Horse Hoe and Cultivator without Lever Expander Price, \$5.25

In Fig. 101, the tool is equipped with No. 18 sweeps and set to make a wide cut at very little depth. This gives the shallow, level cultivation which farmers are coming to think is the right way to keep the moisture in the ground. used to use plows for cultivation but actual experience shows that the new way is better every

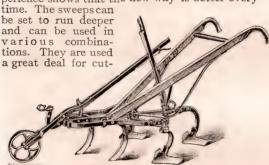


Fig. 101 No. 6 equipped for level cultivation, with No. 18 Sweeps

especially true when the cultivator is opened wide and center tooth or sweep cannot close the furrow. A two-horse cultivator working astride the row does not have this fault. On the No. 6 we fill in the open furrow and more thoroughly pulverize the soil by attaching at each side an extra stan-



Fig. 188 No. 6 with depth regulator. Price, complete, \$7.25 Attachment only, \$1.75

Fig. 102 shows the tool in its simplest form. It is equipped with plain expander bars, held in place by steel stirrup clamp. While not so convenient for adjustment, Fig. 102 is more rigid and makes the most durable form of horse hoe, and stands the rough knocking around of careless or green men.

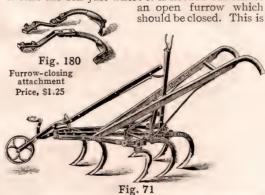
Fig. 167 shows the side hoes reversed with



Fig. 167 No. 6 set for close hoeing

ting out thistles. Made in 8, 10, 12 and 15 inch widths (see inside back cover). This attachment can be applied only on No. 6. Prices, 29, 33, 38 and 45 cts. each, respectively.

The furrow-closing attachment, represented in Fig. 180 and applied as in Fig. 71 is a very important addition to the No. 6 when used as a cultivator. On a five tooth cultivator, the rear tooth on each side bar passes close to the cropit stirs the soil just where it is needed but leaves



No. 6 as a 7-tooth cultivator, with furrow-closing attachment Price, \$7.00

have the attachment to complete your machine. With the depth regulator attachment, as applied in Fig. 188, and adjustment of the front lever, you can quickly change the working depth of the cultivator. Wheel and regulator work together but either may be adjusted separately. Set the regulator at its extreme depth and you can raise the cultivator from the ground entirely and draw it easily to and from the field. Can be applied to Nos. 6, 1 and 36.

IRON AGE BATEMAN MFG.CO GRENLOCH N.J. U.S.A

Attachments for Horse Hoes and Cultivators



Fig. 73 Application of vine lifter. Fine for sweets Price, attachment only, \$1.50

The hilling attachment, shown in Fig. 103, is used in cases where higher ridging is wanted than the regular side hoes can do. To apply, simply remove four standards, attach one of them on the middle bar, and the short standards of the hilling blades to the side bars. We do not furnish any cultivator standard with this attach-Can be applied on Nos. 6 and 1.

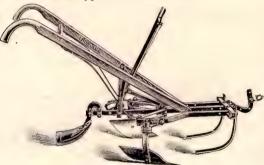
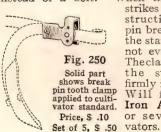


Fig. 105

Runner attachment is shown in front-steadies when covering Price, attachment only, \$1.00

The leveler is applied as shown in Fig. 104. Is used on the horse hoe when covering corn, potatoes, peas and other like crops. Also, in making up rows for root crops, etc. The side hoes are reversed for covering. Can be used on any Iron Age Horse Hoe.

Break pin tooth clamp, Fig. 250. It provides for use of a wooden pin in the upper end of the cultivator standard When the tooth instead of a bolt.



strikes an obstruction, the pin breaks and the standard is not even bent. The clamp holds the standard firmly in place. Will fit any Iron Age five

Side hoe attachment for No. 35. Price, \$1.00 or seven-tooth culti-

Vine lifters, easily attached as in Fig. 73, are used in all vine and brush crops but principally in working sweet potatoes. Can be applied only on Nos. 6 and 1.

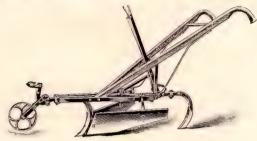


Fig. 103

Hilling attachment applied-for high ridging Price, attachment only, \$1.50

Runner attachment, Fig. 105. When the tool is used as a coverer, steel runners can be attached in place of the wheel—this steadies the tool and there is no chance of displacing seed, as with the wheel. Using two horses would be still better—they would be each side of the row and not on it. The runner attachment can be used on any Iron Age Horse Hoe.

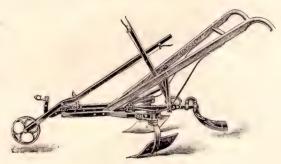


Fig. 104

Note leveler attachment at the back-for covering Price, attachment only, \$1.00

> Side hoe attachments. Fig. 211

shows set of side hoe parts complete for No. 35 Weeder and Cultivator. They will fit any Iron Age Horse Hoe and Cultivator, except No. 38, for which we furnish Fig. 212. This also will fit any Iron Age Horse Hoe and Cultivator except No. 35. Both brack-

ets and standards are adjustable so the hoes can be set for angle and depth.



Fig. 212 Side hoe attachment for No. 38. Price, attachment only, \$1.00

Fig. 211

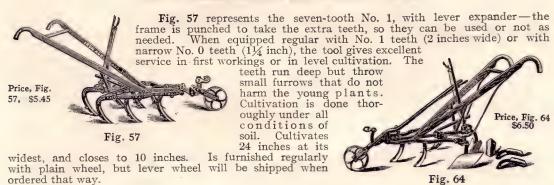


No. 1 Horse Hoe and Cultivator



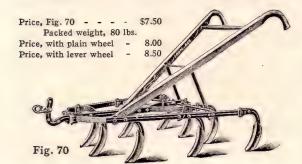
Attachments. Figs. 188, 211 (or 212), 73, 103, 104, 105 and 250, shown on pages 20 and 21 can be used on this tool.

No. 1 Cultivator with Seven Teeth



No. 1 Horse Hoe and Cultivator (Complete)

Fig. 64 indicates what the complete tool is, with lever wheel, lever expander and extra points and standards. These additional parts make the machine more convenient and, in the end, more economical. Well worth the money. We aim simply to give you just what you need.

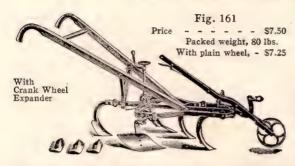


No. 5 Orchard Cultivator

A moderate priced, nine-tooth tool, for cultivation of any orchard but especially for peach and orange groves, where they are used extensively. Spreads to nearly four feet and closes to 20 inches. Is built for the purpose with a special frame to carry the extra teeth—is rigid and has good clearance for the teeth. Can be equipped with either style wheel but with clamp expander only. Attachments. Figs. 211 (or 212), 104 and 105 on page 21, can be used on this tool.

IRON AGE BATEMAN MFG.CO

No. 7 Horse Hoe and Cultivator



For the particular farmers and gardeners who want their tools set exactly so, for cultivation of a variety of crops.

This tool is the same as the No. 6, except it has a crank wheel expander, combining the good points and overcoming the disadvantages of lever

and old style clamp ex-panders. Release the wheel clamp, move to right or left, and the cultivator is adjusted wide



Fig. 238

or narrow as you need it. When set, tighten with the wheel clamp and you have a rigid tool. One side may be set nearer the middle bar than the other, yet both sides are adjusted in the same way.

The No. 7 also has the wheel held firmly in place by a pair of ratchet castings which allow nice adjustments by slight loosening of the nuts—takes about one-fourth of the time necessary for the ordinary style wheel irons. See Fig. 238. Attachments. Figs. 180, 211 (or 212), 104, 105 and 250, shown on pages 20 and 21, can be used on this tool.

No. 8 Horse Hoe and Cultivator With Screw Expander

The screw is a flexible but an exact and rigid adjuster—the screw expander on the No. 8 can be set at any point from the widest expansion, 28 inches, to its narrowest, 9 inches—the slightest change can be made and yet hold the side bars securely. A pawl, worked in teeth in a rack, would compel you to make a certain amount of change for each cog—the screw stops where you want it. The standards can be set to come together and, with adjustment of the angle of the side hoes, form a double moldboard plow, used largely for opening furrows.

Another distinct advantage on the No. 8 is that each side bar has a set screw adjustment to connecting rods of the expander. Either wide or narrow rows may be cultivated, and you have separate

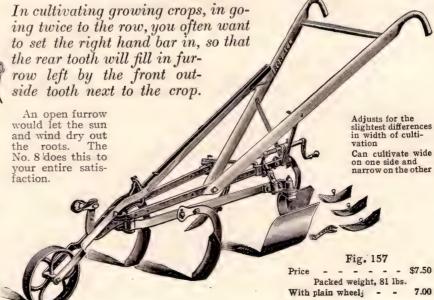
adjustment, so that one bar can be set wide, the other, narrow.



Screw expander holds the hoes exactly where you want them

Attachments.

Figs. 211 (or 212). 104, 105 and 250 on page 21 can be used on this tool.





No. 35 Weeder and Cultivator



with a lever expander that opens the cultivator to 22 inches and closes to 12 inches.



No. 1 Combined Harrow and Cultivator

Farmers in all parts of the country have found this tool to be "right" in every way and it has always been very popular.

> It is extensively used in cultivating sugar beets.

The teeth are steel, diamond shaped, with a small cultivator point forged on one end. They are adjustable for



Fig. 21. Showing adjustment of teeth

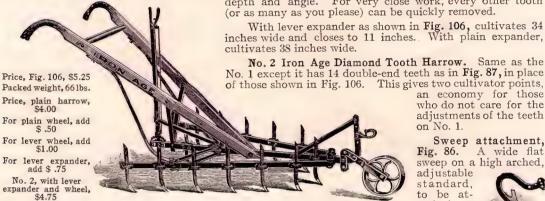


Fig. 106

depth and angle. For very close work, every other tooth (or as many as you please) can be quickly removed.

With lever expander as shown in Fig. 106, cultivates 34 inches wide and closes to 11 inches. With plain expander, No. 2 Iron Age Diamond Tooth Harrow. Same as the

an economy for those

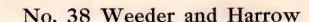
who do not care for the adjustments of the teeth on No. 1.

Sweep attachment, Fig. 86. A wide flat sweep on a high arched, adjustable

standard, to be at-tached to rear end of middle bar. Sure death to weeds and grass. Fits either No. 1 or No. 2.

Fig. 86

Price, \$.95



For deep, thorough, level cultivation of sugar beets,





No. 2, plain, \$3.50

Fig. 87

to 14 inches.

The special side hoes on this tool are furnished as an attachment, (Fig. 212 on page 21) for any Iron Age Horse Hoe and Cultivator, except No. 35 which has another set. (See Fig. 211, page 21.)



Sprayers Guarantee and Increase the Crop

Thousands of sprayers were sold in 1910 which shows that many men are waking up to the fact that

they cannot raise potatoes successfully, year in and year out, without using a good sprayer. They have learned that, if sprayed, the crop is not only safe from blight, but yields many more bushels of potatoes to the acre.

Maine's experiment one year resulted in 280 bushels against 112 for the unsprayed acre-in New York State, a seven year average by the Experiment Station shows gains of 84 to 110 bushels per acre, according to the number of times the crop was sprayed. A great many farmer's tests have brought them enough more potatoes to more than pay for the expense and labor of spraying. Even if blight does not come every year, you are still ahead on your crop and have made sure that it would not be ruined. Blight cannot be cured but it should be prevented. The improvement in a sprayed crop can be seen in the healthy appearance of the vines, while unsprayed vines are dying. Where early digging continues two or three weeks or more, the increased crop from this healthy growth has run into

The bugs can be disposed of quickly and safely when you have a sprayer and use a liquid solution.

The Bordeaux mixture, or arsenate of lead or some solution recommended by your nearest Experimental Station should be used. Ask us for formulas.

Not only is it necessary and profitable to use a sprayer in potatoes but also in tomatoes, cucumbers, cantaloupe, strawberries and other small fruits or any row crops troubled with disease or insects. Spraying cantaloupe has been known to extend the picking season two to six weeks.

An Iron Age Sprayer with orchard attachment will save your orchard from San Jose scale and

other diseases when the proper solutions are applied.

Also have a machine especially fitted for spraying weeds and for grain. More information will be

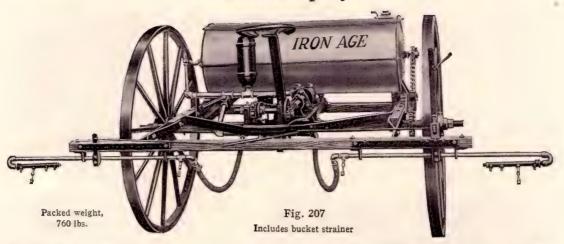
given on application.

We put into Iron Age Sprayers the practical experience of many years in field and factory. They are built of the best materials including a high grade of pipe, fittings, hose, etc. A wide range of adjustment is provided to meet conditions of planting, etc. They are long-lived machines. We give you strength, durability, capacity, convenience. Very few repairs are needed. We give you the option of several different forms of equipment and provide attachments as shown on pages 29 to 31. They are equipped as ordered, with single or double acting pumps, steel or wood tanks, wood or steel wheels, combination pole and thills, or plain thills or pole only.



IRON AGE

Four-Row Sprayer



No. 102—Fig. 207, with S. A. pump and thills - - \$73.00
No. 103—With S. A. pump and pole - - - - - - 75.00
No. 107—With S. A. pump and combination pole - 76.00 No. 102D-With D. A. pump and thills No. 103D—With D. A. pump and pole - - - No. 107D—With D. A. pump and combination pole 85.00 "B" spray bar equipment at same prices as above. (See page 28)

Single acting pump. Fig. 332. With this pump we are able to deliver a spray under high pressure. It is properly constructed, of the highest grade of materials and mounted on a heavy base that keeps the working parts in line. A large air chamber gives steady pressure. The plunger enters the cylinder squarely with little or no friction, because of the way the plunger shaft is pivoted. The solutions used come in contact only with brass parts and packing that cannot be affected—the plunger passes through a brass gland and the part which enters the cylinder is also covered with brass. The plunger does not

work directly against the walls of the cylinder but against the packing, which can be easily renewed when necessary. The pump is driven by both wheels at once-there is no side draft. A handy clutch throws the

Easy to get at the packing in this pump Arrows indicate brass gland and brass covered plunger Fig. 332 Price, pump only, \$20.00

that a double acting pump is better when you spray for blight. They deliver spray at a very high pressure—a gauge tells you what the pressure is. You get two strokes instead of one, keeping the pressure steady. The check valves are on top--if sediment does get in, the valves can be removed easily. Has direct action. Special attention is given to fitting. Packing is easy to get at. Only packing and brass parts come in contact with the solutions so that corrosion is impossible. While not absolutely necessary, this pump is recommended for use with twin nozzles or with six-row attachments on account of extra heavy pressure that is desirable.

pump out and in gear. Oil cups with spring caps keep plenty Fig. 333 of oil on the bearings and keep Solid parts show relief out the dust. valve and The relief valve. Fig. 333. where orchard Not only gives relief for too attachment much pressure, but helps to is put on Shut off pump in direction change the fineness of the spray. Has adjustable spring pressure. of arrow Double acting pump. Fig. 253. Those who have made a study of results from spraying under different pressures find Fig. 253 Price, pump only, \$30.00

Double acting pump. Two strokes instead of one-constant pressure

If machine is wanted with this pump, add letter "D" to the number, as No. 102D

IRON AGE

Four-Row Sprayer-Continued

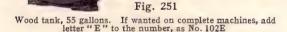
Tank. Nos. 102-103 sprayers have 55 gallon steel tanks unless otherwise ordered. They are heavily galvanized after they are made up, to prevent corrosion and rust. Revolving dashers (Fig. 334) keep the solution thoroughly stirred so that there are no deposits to interfere with future operation of the machine.

With this thorough mixing and high pres-sure, you can safely use strong solutions and be sure that all plants get the same dose

Rubber gaskets between tank ends and the cast heads, prevent leakage. The bucket strainer goes on top and there is a vent pipe for air.

Wood tank. Fig. 251. Capacity 55 gallons. Made of best grade of inch cypress, and has adjustable steel hoops—is strong and durable. Furnished only when ordered. Letter "E" should be added to number of





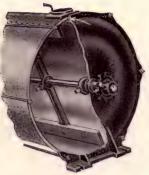


Fig. 334 Showing dasher and gasket

wanted with this equipment, as No. 102E.

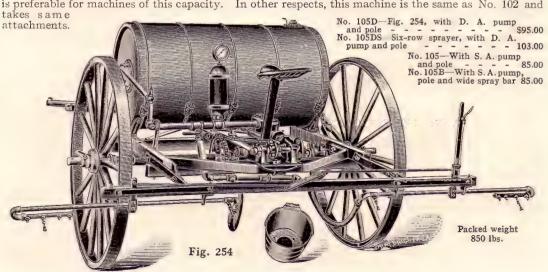
Spraying nozzles are where the operator can see them. Ratchet adjustments on each side regulate the height of the spray bar. One lever adjusts for rows, 28, 30, 33 and 36 inches wide-when ordered, wide rear bar will be furnished (at same price) to spray rows 42 inches apart. Order this equipment by adding letter "B" to number of the machine, as No. 102B. The lever also provides for folding the machine when on the road or for

wood wheels are furnished unless otherwise specified. They are 50 x 3 inches and adjustable on axle for the various width rows. Long axle is needed for the "B" machine.

No. 105D Four-Row 100-Gallon Sprayer

This is our 100-gallon machine with extra strong frame to carry the additional weight. with wood tank only

Double acting pump supplied unless otherwise specified. The highest pressure and continual action is preferable for machines of this capacity. In other respects, this machine is the same as No. 102 and





New Combined Four-Row Potato and Seven-Row Pickle Sprayer

As a potato machine, it will spray rows 28 to 36 inches apart.

For pickles, it complet-Fig. 362 Includes bucket strainer. Same as No. 105D except extra fittings, etc. Price, \$125.00. Order as No. 108D. ely covers 24 to 26 feet or seven rows, 4 feet apart.

> Pickle plants cover the ground entirely, when grown—vines are parted to allow the machine to pass without damage. Has 16 nozzles for pickles—covers thoroughly at good pressure. A separate hose carries to outer nozzles—no extra joints—no leakage. The whole rig is telescoped, folded and locked (Fig. 385) in one operation. When in use is held in line by trusses—when folded will pass through a 10½ foot space. Is a practical machine also for cantaloupe, tomatoes, etc. where planted four feet apart. To change from

> > Arrow shows adjustable wind shift

Fig. 385 pickle sprayer to Folds and locks in one operation four row potato machine, uncouple

two unions and remove the extensions.

We also build a machine for spraying grain and weeds, same as No. 108D except it has 13 nozzles instead of 16 and brass pipe is used so sulphate of iron

solutions will not corrode.

Fig. 298 Six-row and wind-shift attachment only. Price, \$15.00. When ordered with complete machine add \$8.00 to price of machine and add letter "S" to the number Six-row and wind-shift attachment. Fig. 298. For

spraying six rows at once. And you can, with your foot, throw your bar farther out toward the wind, which will bring your spray back to the row just right. The spray bar supports are pivoted on each side at inner ends and are locked in position by ratchet teeth on wind-shaft bar. Two levers slide out each section of spray pipe separately. By the use of two small gears in shifting, the outside nozzle moves three times as fast as the inner nozzles. Rows can be 28, 30, 33 and 36 inches wide. If wide bar is used, you can spray six rows 42 inches apart down to 34 inches-must be specified when



IRON AGE GRENLOCH, N.J., U.S.A

Attachments for Sprayers—Continued



Twin nozzle attachment. Fig. 208. Is especially valuable when spraying for blight and should be used only on sprayer equipped with double acting pump, if you want the best results. The attachment consists of four "Y" couplings and four extra nozzles as shown by solid parts in the cut. When you order sprayers this way, add letter "A" to the number, as No. 102DA-means No. 102 with double acting pump and twin nozzle attachment.



Solid parts show middle row attachment Price - - - \$2.00

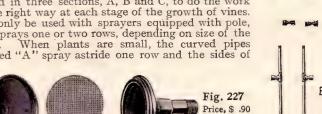
the next two rows. When plants are medium size, pipes marked "B" are

used in the same way.

Middle row attachment. Fig. 209. For use when spraying three rows of vine crops, such as cucumbers, tomatoes, etc. Can only be used on sprayers that have pole attachment or combination pole. Is easily attached to center

of sprayer bar and is adjustable. The solid parts in the cut show what you get with the attachment-no nozzles are sent at price quoted, but will be furnished when ordered.

Tomato spraying attachment. Fig. 219. Is furnished in three sections, A, B and C, to do the work in the right way at each stage of the growth of vines. Can only be used with sprayers equipped with pole, and sprays one or two rows, depending on size of the vines. When plants are small, the curved pipes marked "A" spray astride one row and the sides of



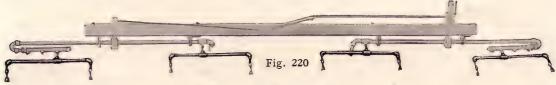
When plants are full grown, one-half of the pipes marked "B" are used in connection with middle row attachment marked "C" for spraying one row only.

Nozzle strainer. Fig. 227. Strains all of the solution and keeps particles of dirt from stop ping the flow through the nozzle. Fig. 227 shows the three parts and fineness of screen. No matter what crops you are spraying, this attachment will be of great value and it is effective. Fig. 226 shows strainer complete attached to nozzle-solid part only is sold at the price, but the nozzle can be furnished when

Fig. 219 Fig. 226 Tomato spraying attachment No nozzle with strainer complete attachment Less "C"

ordered. It is shown attached to indicate how the strainer is used, and also serves as an enlarged illustration of our fine vermorel nozzle. We emphasize the value of this attachment, for it is a mighty good thing, and pays for itself many times over. When new machines are wanted fitted this way, add letter "C" to the number, as No. 105DC.

Wild mustard attachment. Fig. 220. To kill wild mustard, which has become a nuisance in some parts of the country. Attachment consists of four sections of piping and the four extra nozzles shown solid in the cut.



Solid parts only, included in wild mustard attachment.

Price - -

Attachments for Sprayers—Continued

Orchard Attachment. Fig. 194. Costs but a small part of the price of the sprayer but practically doubles its value.

For the potato grower who also has an orchard of moderate size.

The fruit man, too, knows what such a machine means to him-he has learned that it is necessary to spray trees, grapevines, berry bushes, etc.

Two persons operate this machine when spraying treesone drives and pumps, the other handles the nozzle.

A quarter stroke of the lever does the work. The pump forces the spray high and very fine-the spray covers thoroughly. You can shut it off at any time.

Many people buy the sprayer equipped this way for use only in orchards—they find it pays and is a convenient machine to have around. It pays to spray consistently and not wait until scale has nearly ruined your orchard before you try the cure. Is your orchard a profitable investment or merely a side issue? The orchard has been known to pay for the farm in two or three years. Take care of the trees and they will take care of you. An equipment like this saves buying two different machines to do two kinds of work. This means economy in first cost, in repairs and in storage room.

The attachment consists of 25 feet of rubber hose, 10 feet of iron pipe, one Vermorel nozzle, a stop cock and fitting that attaches next to the machine and hand pump lever.

Combination pole and thills. A great many farmers want to be able to use two horses or one on spray-

The solid parts in Fig. 297 show what is necessary to change Iron Age sprayer thills to combination pole and thills. These extra parts will be furnished for any old machines. When new No. 102 is wanted with this equipment order as No. 107. The pole

Fig. 194

Price, \$7.00

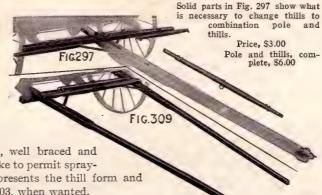
when set up this way is securely attached, well braced and rigid. Extra long doubletrees and neck-yoke to permit spraying astride two 36-inch rows. Fig. 309 represents the thill form and can be supplied this way for any old No. 103, when wanted.

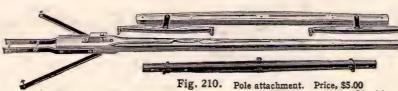
Pole attachment. Fig. 210. We shall continue to furnish this outfit as an attachment for any who prefer a solid pole to combination pole and thills. It is the same equipment as on No. 103 sprayer. A pole (solid or combination) is better for hilly sections and a necessity for three-row spraying. Extra long doubletrees and neck-yoke are furnished.



No. 102 Sprayer with orchard

attachment. A straight drive between rows-solution applied easi-







Potato Diggers are Necessary



To the commercial grower, the digger is as important as any part of his potato machinery. It saves time, and helps him get his crop to market just right—it saves hard work digging and also in picking up and sorting—it gets all the potatoes at one trip, and without cutting them, as you can set the plow so as to get under them without taking up too much dirt—it pays for itself in a short time—it saves hunting and caring for extra help at a busy time—in short,

It is impossible to harvest your crop economically without an up-to-date digger.

Did you ever watch a lot of men at work with potato "drags"? Every few feet they jab one or more potatoes (usually the biggest ones)—they are working "in the dark" and miss a great many, and their backs are pretty lame when night comes. Did you ever know a potato plow that would get all of the potatoes even after going over the ground three to five times? Then, you dig them out of the loose, plowed ground with your fingers—result, sore fingers, more lame backs, the day gone, and some potatoes left in the piece which you have worked over so thoroughly.

In one hour, a modern potato digger will get enough for a load or more.

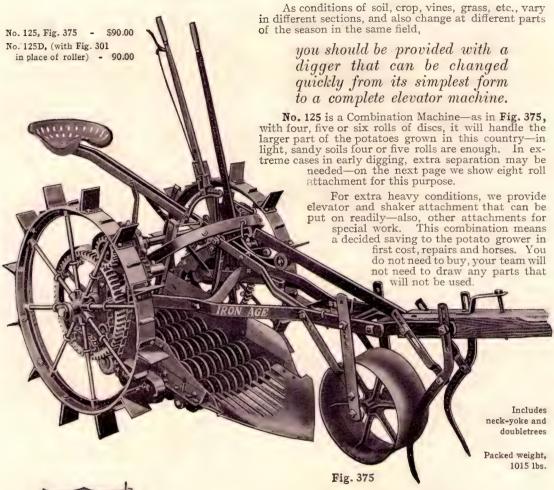
All the potatoes are laid in plain sight, and are picked up and sorted easily—not so many men are needed for this work as heretofore. No man would go back to the old way. Even the small grower will find it to his advantage to use this modern convenience—it will simply take him longer to pay for

his machine out of the increased profits.

We make two styles of Iron Age Diggers. First, there is No. 125, an improvement on our No. 120, but not a radical change—is a different style from any other machine, a Low Down Rotary Disc that takes an elevator when needed. To this machine, we add an eight roll attachment which may be just what you are looking for. Second, we make No. 150 Elevator Digger—lower in price but A1 in quality—it has had wonderful success. Each machine is well worth your study, and we will be glad to furnish any information not given in the following pages.



No. 125 Low Down Potato Digger



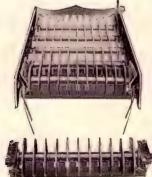


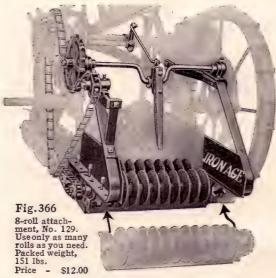
Fig. 338
A sieve for perfect separation
6th roll removed

Separation. Fig. 338 shows six rolls of rotary, separating discs, one of them removed. They are placed low in the frame—potatoes and soil are not elevated—takes less power and the crop has no unnecessary handling.

The rolls are easily taken off and put on again, if you get into heavy ground. Under all conditions you get thorough separation. Fig. 338 shows what we call the cradle—the front four rolls are open, like a sieve, for soil and stones to pass through. The discs, bushings and square shafting are all steel, wear well and are readily replaced by the operator when necessary. There are 66 separating discs—all are 5½ inches in diameter, except those on front roll which are 4½—they revolve continually while the machine is in motion. In this form, the digger needs but two horses to operate it. Back of the fifth roll we show an attachment on each side, to gather the vines in the row so the wheels won't have to run over them on the next round.

IRON AGE GRENLOCH, N.J., U.S.A.

No. 125 Low Down Potato Digger



Single roller. This is our regular equipment for this machine. The roller is 14 inches in diameter and has 8-inch concave face. It crushes the vines

and keeps them in the best shape for digging. The roller is adjustable for height, forward and backward, and a lever convenient to the seat raises it clear of the ground to pass over rocks, etc. We provide for heavy vines with a disc attachment

shown in Fig. 205, page 36—it is used only with this roller.

The plow is a wide, heavy, concave steel blade, 56 of an inch thick. It is slotted at upper end, reducing friction. There is no clogging, and separation begins at once. The depth at which the plow works is adjusted by lever.

Pole connections. Fig. 384. While the pole is hinged to move up and down, it has no side swing and is attached so the machine

No. 126, Fig. 376, with 3-horse equalizer - \$15.00 Packed weight, 275 lbs.

Fig. 376 Elevator attachment, No. 126. For better separation in extreme conditions

Our new (No. 129) Eight Roll attachment is a one-third increase in the separating rolls. It adds comparatively little weight to the machine but

helps many growers to do their season's digging without an elevator.

It is made to fit old No. 120 Diggers as well as No. 125. Fig. 366 shows the attachment applied with the rear roll separate and emphasizes the beauty of this construction—you can use four, five, six, seven or eight rolls, just as you need them. An extra tedder or kicker is provided to take care of the heavy vines at rear of the machine. Complete machines will be furnished with eight rolls when so ordered. As attachments, please order No. 123 for No. 120 and No. 129 for No. 125. The price includes

extra links of chain to drive the attachment.

Vine gatherers. "Well begun is half done."

We take care of the vines with forked steel parts,

shaped and adjusted to straighten out the vines ahead so they will pass under the roller.

> Fig. 384 The best pole connectioncan back with it

can be backed and kept over the row, and the plow held at any depth. The machine is always under control, which is not true of those machines that make their connections by hooks. Theirs may be called "limber poles" and operator does not have control on any of these points.

The framework is mostly of steel and malleable iron, and wears like it—makes a strong foundation to stand the heaviest work.

Wheels are cast iron with steel spokes, a large, heavy gear is securely attached to each wheel, and power is taken from both sides at once. Each digger is now supplied with a full set of steel spurs as shown in Figs. 375 and 377. They add a great deal to the traction power in many soils. See also page 36.

The chain and sprockets are coupled in such manner as to be disconnected easily when you want to take off one or more rolls of discs. All gearing

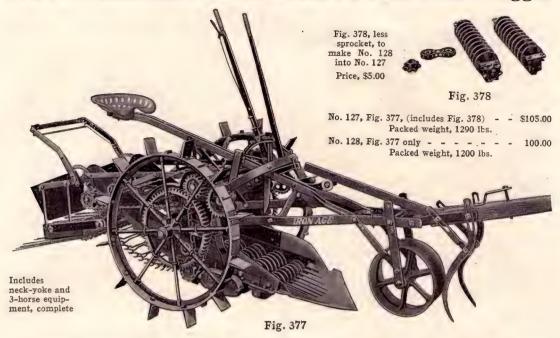
covered thoroughly and yet easy to get at.

With a pair of small clutches the driver can throw the machine in gear from the seat.

Kickers or tedder sticks keep the vines and trash on the move to the rear. They can be set to work together or alternately, as on a hay tedder.



No.127 Combined Low Down and Elevator Potato Digger



Elevator attachment, Fig. 376. When conditions are so difficult that you cannot get satisfactory separation with the six rolls or eight, remove the fifth and sixth and attach elevator with shaker complete, making Fig. 377. The elevator chain (or apron) is made of interlocking steel cross bars—

Elliptical sprockets give the chain the right motion so that with the four front rolls of discs and the shaker, there is perfect separation.

The elevator is driven from both sides, giving central, even motion without danger of twist. Roller

bearings (four sets) reduce friction. The shaker is steel, hung from both sides and easily operated from the center by the driver from his seat—to raise it, you don't have to release the ratchet, just pull the lever, Fig. 386—this means something when, at the end of the row, the shaker is heavy with



soil and potatoes. The shaker tines can be shaped to leave the crop in the middle of the row or at one side, as you prefer. Shaker can be removed when not needed.

The elevator can be adjusted for height and chain tightened when necessary. Steel construction—simple design—easily put on.

Three horses can handle the complete elevator digger easily—the sets of discs, with easy rotary motion, do a large part of theseparating before the crop gets to the elevator and this lightens the load on the horses.



IRON AGE 1836 GRENLOCH.N.J.U.S.A

Attachments for Potato Diggers



Best two-wheel equipment on any digger. Fig. 301. Can be supplied in place of the single roller at the same price for the complete machine.

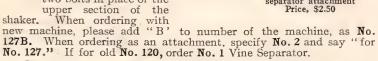
It is practically necessary where high ridging is practiced or where potatoes are planted in checks.

It is attached to the pole with pivot connections that allow it to swing up and down, both wheels hugging the ground at all times. The wheels swing on castors. Other machines with two-wheel

equipment turn almost on one wheel—you are not only likely to tip over but machine may be strained every time you turn. With this Iron Age equipment,

unevenness of the ground doesn't matter. On level ground, in a ditch, on a grass hummock at edge of the field, over roots around a tree in the center of the field, on a side hill—they are all the same to this machine. The framework is steel, and the pivots secure. Fully covered by patent. When ordering, please add letter "D" to the number, as No. 127D.

Vine separator, Fig. 380. With this attachment, the vines are delivered at one side of the row and the potatoes dropped in the middle (or opposite side, if desirable). Is attached with two bolts in place of the



Disc attachment. For use in digging early white potatoes, also in the late crop overrun with grass and weeds. Good in all cases where vines are extremely heavy growth—the concave discs cut and throw aside a large part of the vines and part of the soil. This attachment should be used on No. 125 when digging sweet potatoes. Can be used only with single roller in front. Side hill spurs. Fig. 263. Complete sets of special steel spurs are

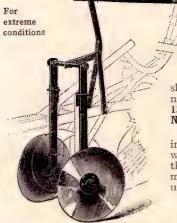


Fig. 205 Disc attachment. Price, \$8.00

Each No. 125 Digger is shipped with two-horse equip-ment. We furnish a threehorse equalizer that includes

Fig. 263 Side hill spurs for wheels. Price, for set of 24, \$3.00

Regular steel spurs. Complete sets of these spurs, as described on page 34, will be supplied as an attachment, for any old style No. 120 Digger. Price, per set of 24, \$3.00.

furnished as an attachment. They are for extreme side hill conditions,

and will hold the digger up to its work.

Fig. 380 Solid parts show No. 2 vine separator attachment Price, \$2.50

only parts necessary to complete three-horse equipment for driving three abreast. As the name indicates, parts are so arranged as to equalize the draft. Price, equalizer only, \$3.00. For four horses abreast, we provide four-horse equalizer (Fig. 379) which completes a four-horse equipment.

An enthusiastic Northwest farmer writes, "I generally use four horses, though on good ground I have dug on an average, 4½ acres a day with three horses, for four days, with same horses, without a stop. I think it is as light running as a machine of that kind can be expected to be.



Fig. 379 Four-horse equalizer. Price, \$4.00



No. 150 Elevator Potato Digger

A friend from Maine writes: "The little Digger, No. 150, is a prize. Everybody likes it. We tried it successfully where there was witch grass and where the tops would fill the whole machine all the time."

Another was looking for the best digger at any price and No. 150 won in competition with five others.

An Ohio man says: "You have not only put out a good machine but the best light draft digger on the market."

These first-hand reports from actual users tell you



Turning into the next row. Shaker raised, carrying the potatoes

just what you, as prospective buyers, want to know. Has the machine been successful with others? Two years' thorough tests prove that it has with many thousands of potato growers in New England, the North Atlantic States, the North Central States, Oregon and Washington. It has been digging steadily through two seasons in all kinds of ground, in heavy vines, grass, weeds, etc., in ordinary and extreme conditions, from light crops to three or four hundred bushels per acre. Is light weight and is built on a very simple design, yet has great strength and power, and can be easily adapted to your needs. The following pages give you the details.

It will cost but a penny or two to ask us for special booklet on this machine, and any questions you want answered will have prompt attention. No man can order intelligently without full information on all diggers—get the best machine for your purpose—give us a chance to show what No. 150 can do for you.

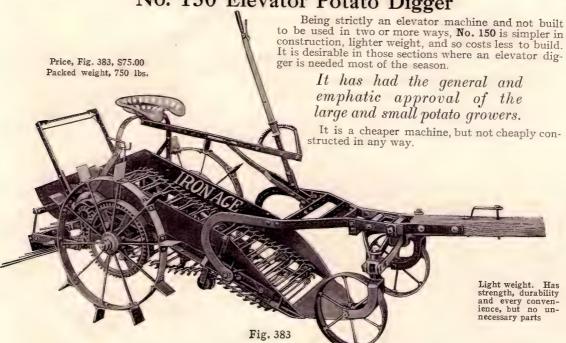


This crop went 225 bushels to the acre and you could not ask for a cleaner piece of work

The owner was a mighty happy man

IRON AGE BATEMAN MFG.CO

No. 150 Elevator Potato Digger



No. 150 is built almost entirely of malleable castings and steel—is strong, compact, carefully fitted, and keeps tightly bolted. The main frame side bars are steel angles. The wheels are steel, 28 inches in diameter, 21-inch rim, and have cast removable hub box—the only part that can wear, can be cheaply replaced. Steel spurs, as shown in Fig. 383, give the necessary traction for level ground. For hillside work, they can be bolted to the rim in a

Don't need to release the latch-just pull

Fig. 387

diagonal position so they will hold the

machine from slipping. (Fig. 341.)

The ½-inch steel plow gets under the potatoes and does not cut them—close adjustments are made—no extra soil need be carried when digging.

Soil and potatoes are separated thoroughly-elliptical sprockets give the elevator apron just the right automatic movement.

The shaker completes the separa-

tion. The elevator chain (apron) consists of interlocking cross bars of steel, has no unnecessary tension, and is driven direct by gearing from both main wheels.

The shaker has uniform motion which is not affected by heavy crop or sod conditionsit is operated from both sideswill take care of heavy, grassy conditions. The shaker is shipped with the tines all on one level,

Fig. 341 Spurs set diagonally. slipping on hillsides

to be shaped by the operator to drop the potatoes in the middle or at one side of the row, as he prefers.

As on the No. 125, the operator does not have to release the ratchet, but simply pulls the lever toward him-this point will be appreciated at ends of rows when the shaker is heavy with soil and

Chains and gearing are thoroughly shielded against dirt, vines and grass. Thorough provision is made for oiling.



No. 150 Elevator Potato Digger-Continued

Separate removable bearings are used to carry the elevator chain (apron). They are cast iron with the part most likely to wear chilled. Fig. 382 shows the way the parts are applied on the machine. Flanged parts and washers (Fig. 355) that set in, protect the bearings against sand. They are cheaply replaced and easily put on by the operator. This point is very important, as most of the wear on any digger is at this place, and you don't want a machine that will be both expensive and difficult to keep in repair.

No. 150 is the only digger that throws in and out of gear from the seat.

Fig. 356. One lever shifts the pawls in both wheels at once. Do you know what that means to you? You don't have to get down—you don't have to throw each side out separately—you can throw out of gear at the end of each row and retain the potatoes on the shaker instead of scattering them when turning. Saves time and considerable hard work, picking up after the

other kind of machines. The shifting arrangement is very simple and complete—not easily got out of order.





Fig. 355
Separate parts for bearings

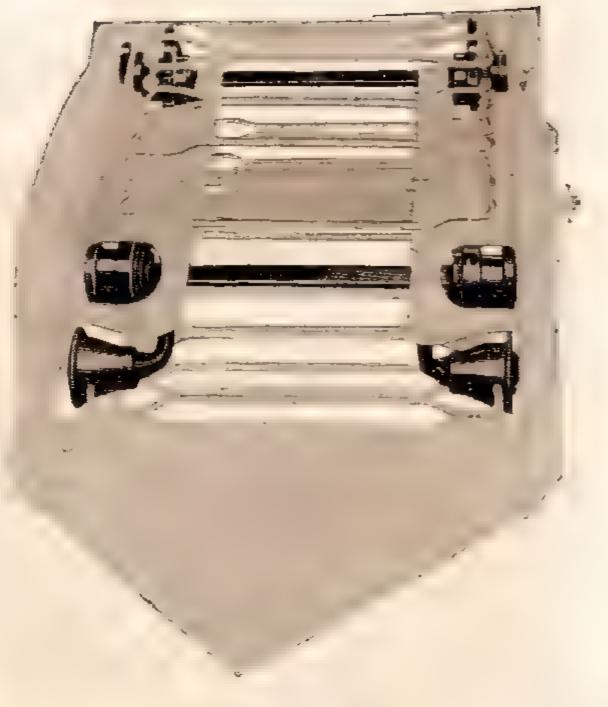


Fig. 382

A plain system of bearings and sprockets for the chain. Protected against dirt and are easily replaced when worn

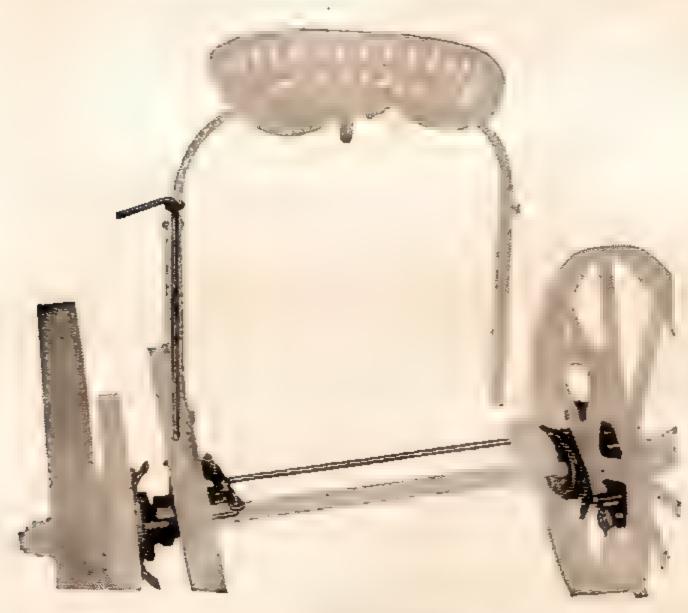


Fig. 356

Shifts in gear from the seat—both sides at once

The pole pivots to move up and down, but does not swing from side to side—is rigid and the operator has entire control. You can back the machine, can keep over the rows, can keep the plow at any depth when set. In other words, you know just what you are doing at all times. Those machines which have poles attached by hooks cannot be controlled on any of these points.

Two-wheel equipment. No. 150 is furnished this way regularly. See Fig. 383 on page 38, and Fig. 301 on page 36. Is the best two-wheel equipment in use on any digger—is pivoted in the center to swing up or down, and has swivel for the wheels. Fits every unevenness of ground, prevents strain on the frame, and you can turn short at ends of rows without danger of upsetting. Some machines turn almost on one wheel.

Vine separator attachment. The vines are delivered at one side of the row while the potatoes fall wherever the shaker times are shaped to carry them, either to middle of the row or to the other side. Use of this attachment often produces better separation of soil and potatoes, because of the curved times. Goes on in place

of upper part of the shaker. Order No. 2 for this machine. Price, attachment only, \$2.50. When complete machine is wanted with Vine Separator, add letter "B" to the number, as No. 150B.

Three- or four-horse rigs. As shipped, the machine is furnished without doubletrees or neck-yoke. When ordered, we furnish complete three-horse rig, including doubletrees, singletree and long evener. Price, \$4.00.

A Pennsylvania man sends the following:

"The Iron Age Potato Digger purchased from you a short time ago was given a severe test in a patch where there was an abundance of stone and many weeds. It worked as good there as could



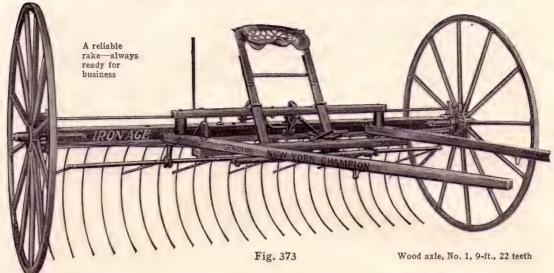
Four-horse equipment, complete. Price, \$5.00

possibly be expected from any digger under similar conditions. We dug five acres in that field. Several days later we gave it a test in a three-acre patch that was practically free of weeds but which had rather more stones than the former patch and it worked so well that all parties concerned in picking up and digging were perfectly satisfied that it is an economizer.

"It affords me a great deal of pleasure in recommending the Iron Age No. 150 Digger."



(New York Champion) Wood Hay Rake



NO. WIDTH TEETH PRICE 1 or 2 8 ft. \$25.00 1 or 2 1 or 2 8 ft. 26.00 26.00 1 or 2 1 or 2 27.00 10 ft. 27.00 1 or 2 1C or 2C 1C or 2C 10 ft. 28.00 26.00 27.00 8 ft. 20 8 ft. IC or 2C IC or 2C 9 ft. 9 ft. 27.00 28.00 1C or 2C 10 ft. 1C or 2C 10 ft. 28.00 31 29.00 These are the original Patten & Stafford rakes, so well and widely known throughout the country as the best of their kind.

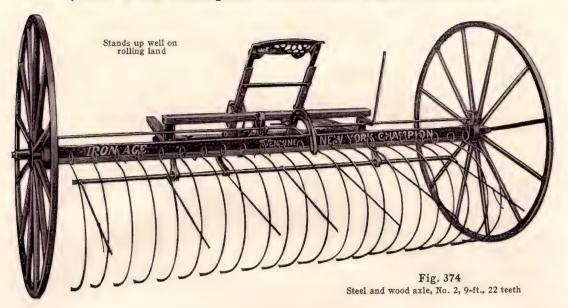
We purchased, in 1908, the sole right to make them, with patterns, patents and good will. The latter we value highly for we know what the trade thinks of these rakes.

We do not make an all-steel rake but mostly wood—at one time the all-steel was the popular rake, but the demand is fast turning back to wood rakes—the others do not stand up on the rolling land of eastern territory.





(New York Champion) Wood Hay Rake-Continued

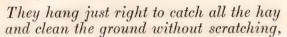


The Iron Age Rakes are identical with the New York Champion and are made first class in every Two styles are manufactured. respect.

No. 1 Rake. Fig. 270. Has complete wood axle.
No. 2 Rake. Fig. 272. Same as No. 1, except has a wood axle reinforced with angle steel. This is the improved rake, placed on the market by Patten & Stafford Co., just previous to the burning of their factory. The No. 2 is the stronger and more durable rake, especially in the 9- and 10-foot sizes.

The teeth are oil tempered, flat-pointed (sled-runner shape) interchangeable

(no rights and lefts).



they lift high when dumping-have free action in tooth holders, so they are

not easily damaged. Cleaners are steel, diamond-shaped, securely bolted to steel pipe. They pack the hay as the teeth fill and keep the hay from rolling. Pressure on the cleaner foot lever makes larger windrows and bunches them when needed.

Levers, hand and foot, give the driver control at all times. Dumps with

a one-piece rod from both wheels at once-even draft.

Wood wheels are furnished on all rakes unless otherwise specified. have loose hubs and separate ratchets, easily replaced when worn. If steel wheels are wanted, add letter "S" to the number, as No. 2S.

The wide rakes (9- and 10-foot) are trussed to prevent sagging in the center. Combination pole and thills. Fig. 271. For two horses or one. Can be furnished for any Iron Age (New York Champion) rake. A practical combination. The solid parts in the cut show what is necessary to make the thills into the combination pole—the dotted lines show the way both are attached.

When new rakes are wanted this way, add letter "C" to the number. as No. 1C.

Patten & Stafford repair parts. As we have the original patterns for parts on the principal styles of New York Champion rakes, we are prepared to furnish the trade with repair parts that will fit.

Fig. 342

Interchangeable teeth, flat-pointed, have free action



Fig. 271 Solid parts show what is necessary to change thills to combination pole Price, solid parts only, \$1.00



Garden Wheel Hoes

The home gardener and the market gardener—the big and little farmer—the small fruit man—the poultry raiser

will not get along without these tools when they have once tried them. They save hard work, save ground in long, close rows, keep the weeds out, hold moisture in the ground, help to produce better crops, bring health to the men, women and children who use them, add to the wealth of the country.

They should be used in a similar way to the old-fashioned hoe. Don't push the wheel hoe through the soil without stopping to see what the effect is but thrust the tool ahead, a step at a time. You know where the tools are set and what they will do—simply keep your eyes on the wheel.





No. 1 Double and Single Wheel Hoe

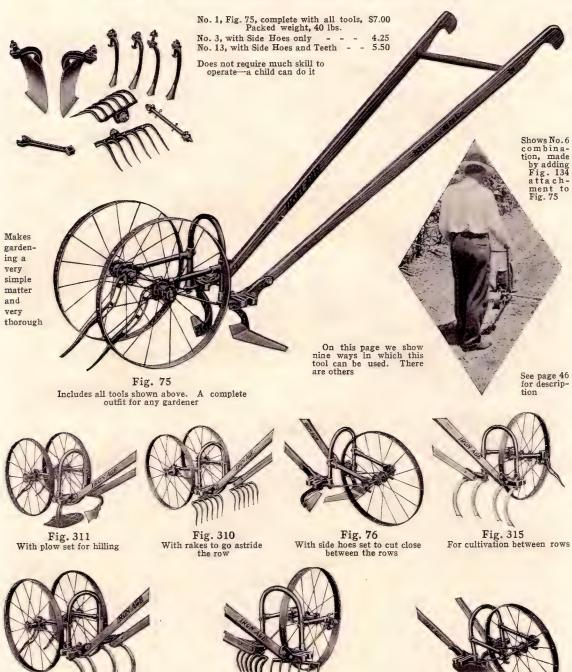


Fig. 312 Cultivator teeth can be set to suit the width of rows



Fig. 314 Set for weeding between rows



Fig. 313 Plows set to open a furrow

IRON AGE BATEMAN MFG.CO

No. 1 Single and Double Wheel Hoes-Continued

In construction, we get three results-

A light weight tool that anyone can push—a strong tool that will last a generation—a convenient tool that can be changed to a single wheel hoe, adjusted to any condition and takes many attachments to do special work.

Adjustments for wheels, working tools and handles Fig. 182

Steel tube frame.

16-inch steel wheels. Built as for a bicycle, light but strongbeing high wheels, they run easy, ride holes or furrows without sticking and carry the frame well above the work.

Frame and handles. Fig. 182 shows steel tube frame with malleable fittings and steel braces—regular bicycle construction—strong, compact, light. The high arch permits work astride 20-inch plants. Wheels can be set at three different heights in the frame or placed inside the frame for narrow rows. With the long axle shown with Fig. 75, you can change to single wheel hoe.



In bush beans, between rows of onions
A few of the latter were pulled
away to show the hoe

after manure and seed.

Plows are used astride the rows or between, for hilling or taking soil from the plants. With both plows in the center, you can open a good furrow-by reversing, can cover

Rakes level and pulverize the soil for the seed bed—also break the first crust, destroying the weeds. Can be set at any angle.

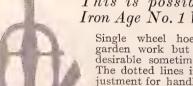


Fig. 316 Hoes set close for working between narrow rows

This is possible only on Iron Age No. 1 Wheel Hoes.

Single wheel hoes are best in most garden work but it is necessary and desirable sometimes to work astride. The dotted lines in Fig. 182 show adjustment for handles to suit the small boy or tall man. Handles are made of ash.

Vine lifters keep the plants from being covered with soil. We furnish

Side hoes can be set close to the plants as the wheel runs steadily. For first hoeings of small plants, set as in Fig. 75 to work astride or between the rows (Fig. 76). One hoe hangs slightly

ahead of the other, trash can get through and hoes can overlap when reversed—can hoe in 9-inch space. Hoes can be furnished to hang opposite, if wanted. Regular hoes are 7-inch but we make them 4 to 12 inches.

> Cultivator teeth are steel in one piece-slender, yet strong-with points shaped for perfect cultivation. Can be used in any position on the frame. Fig. 317, special teeth can be furnished for old or new tools. Points are one inch wide and cut the surface better.



Short side hoes set for close work in spinach



Fig. 317 Special narrow shank cultivator teeth Price, per set of four, \$.80 Does not include bolts

IRON AGE

Attachments for Wheel Hoes



Fig. 169 Solid part shows disc and fender attachment. Arrows indicate adjustments. Price, attachment

Combined Disc and Fender Attachment, Fig. 169

You cannot safely hoe close to small plants on account of the crust that forms around themsmall discs on this attachment are set to cut the surface ahead of the hoes. Discs may be used as fenders (usually with cultivator teeth) to keep soil from being thrown on the plants.

Arrows in the cut indicate three different adjustments-depth of cutting, distance from the plants and position forward or back.

Fig. 369

Garden disc cultivating attachment Price, \$2.00

Hilling Attachment, Fig. 236

For Double Wheel Hoes. These hillers draw a small amount of soil to the plants, working astride the row. Are used prin-

cipally in early cultivation of onions.

Single Tooth Attachment, Fig. 112

To be used with single wheel form of No. I Hoe, to cultivate the ground between the two inside teeth when working between rows



Fig. 112. Price, \$.60

All on this page for No. 1, Double or Single Wheel Hoe. These attachments increase the variety of work that can be done and save much time. They also save buying complete tools for special work.

> We make more kinds of practical attachments than any other wheel hoe manufacturer.



Special fender side hoes Price, \$1.40

Special Fender Side Hoes, Fig. 216

Made with high sides, for early working, especially in onions. Used in place of the regular hoes on any Iron Age Wheel Hoe—will be furnished that way when ordered—add letter "C'" to the number of the tool, as No. 1 C, and 65 cents to the price. Cut shows them for working astride—can be reversed for work between rows.

Fig. 82 Landside

plow. Price, \$.90

Garden Disc Cultivating Attachment, Fig. 369

See page 49 for description. Furnished as attachment for wheel hoes, Nos. 1, 9 and 20.

Landside Plow, Fig. 82

Makes the tool a perfect wheel plow, with plow following line of the wheel. Plows good, deep furrow and runs steadily.



Fig. 170. Shows plow and clip, which makes the attachment Price, \$1.40

Fig. 236. Price, \$1.25 Onion Set Gatherer, Fig. 33

Saves hours of hard work. Gathers onions, radishes and other root crops in a

thorough manner. Can be used on any of our double and single wheel hoes.

Double Weeder Attachment, Fig. 81

Fig. 81. Price, attachment only, \$1.10

The side hoes might not get alone. Cut shows position in which weeder is attached. It throws back to the plants the little soil taken away by the hoes and leaves the ground with a level mulch of fine soil that protects in dry time. One or more teeth can be taken off. Attachment can be used on single wheel hoe by changing to opposite sides.



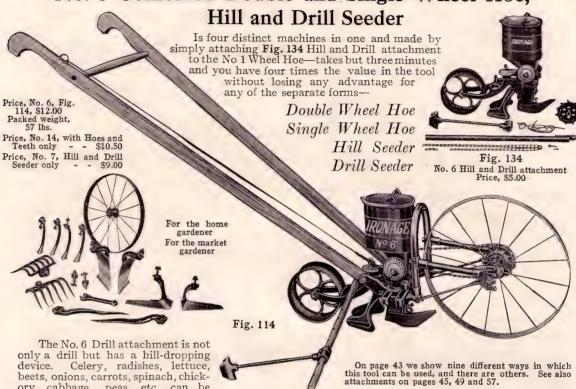
Has adjustable wings to open furrows of various widths. For narrow work the wings can be removed. Can be applied to any Iron Age Wheel Hoe.



Fig. 33 Price, \$.80



No. 6 Combined Double and Single Wheel Hoe,



device. Celery, radishes, lettuce, beets, onions, carrots, spinach, chickory, cabbage, peas, etc., can be sown in continuous rows with this

indicate

drill. Or, it will drop in hills at 4, 6, 8, 12 or 24 inches apart—the change from drill to hill seeder is made instantly by throwing upper lever shown in Fig. 318 into notch in lower lever. When ordered, the drill will be equipped with special sprocket wheel, C121A, which will drop the seed at 5,8,11,16 or 32 inches.

Fig. 318 also shows hill spacing plate and connections. An arrow indicates a stationary peg on the

back that makes the hills 24 inches apart. The pins, placed in holes at outer edge of the plate, space the various distances under 24 inches.

Fig. 146 shows seed slide and index adjustment to sow various seeds. When the notch indicating seed to be sown is set, take it as a starting point from which to regulate the flow of seed exactly by moving the index a trifle backward or forward. Every man has his own

ideas as to the amount he wants to sow. With this index he can suit himself.

Fig. 318 Some round, smooth seeds flow through the discharge opening without the use of an agitator, but for others it is absolutely necessary to

insure continuous feed. We use a brush agita-tor, made of selected bristles—they do not injure the seed in the slightest way, wear a long time and 'are cheaply replaced. Brush agitators separate such seeds as beets and tomatoes that naturally cling together will also distribute uniformly, small or large quantities of seeds, that is, a hopper full (it holds two quarts) or any portion of it.



Fig. 319 Arrows show seed opening and swinging cut-off

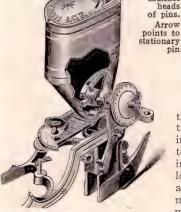


Fig. 146 Brush agitator, hill dropping device, index and opening plow

IRON AGE 1836 GRENLOCH, N.J., U.S.A



No. 6 Combined—Continued

Fig. 183 shows the view which the operator has of the drill and the seed dropping as he pushes it forward.

There is no mistake about its being actually deposited in the soil, for the operation is always in plain sight.

The flow of seed can be stopped instantly with a swing cut-off, the bottom side of which is shown in Fig. 319. It is conveniently operated by a cord and ring on the handle and prevents

loss at ends of rows. The swing cut-off cannot be jammed by falling seed as can those that slide under. An opening plow crushes and separates all trash in the way and keeps the seed in a straight, narrow row which makes it pos-

sible to cultivate very close. The plow is adjusted in depth by a thumb screw. When it is desired to scatter seed in a row over three inches wide, we recommend the use of opening plow, Fig. 145. It is largely used You see the seed drop for sowing onion seed for sets. For drilling

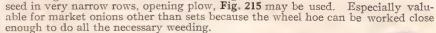


Fig. 183

It will not drop in hills. Both plows can be applied to our Nos. 6, 7, 15, 16 and 22 drills.

Fig 360 shows a new plow that can be applied to either No. 6 or No. 15. On account of its shape, it pulls into the ground easily, but is recommended for clean soil only.

Coverers close the furrow after the seed is dropped. They are flexible to prevent clogging with trash or lumps. A marker stick is pivoted at rear of the hopper, and can be moved to either side by the foot. The marker drag can be adjusted in a second, from 6 to 20 inches wide.

All Iron Age drills are furnished with steel Locke belt chains

and adjustable cam tighteners These are convenient not only as a working adjustment, but when attaching chain or removing it

The No. 6 sows sugar beet and chicory seed accurately and without injury. The arch being high will allow the cultivation of these crops until they are well grown.



Sows in narrow rows with Fig. 215 plow. Hand weeding is need-



A succession planting with the drill. Quick, accurate, easy work



Double wheel hoe astride peppers set out between the onions



Fig. 360

Price, \$.50

This girl is doing her share with the single wheel hoe



No. 4 Combined Double and Single Wheel Hoe and Drill Seeder



Many gardeners do not want a hill seeder-we do not want to overload the buyer, but try to give him just what he needs and no more. The No. 4 is exactly like the No. 6 Combined, except that No. 4 does not have the hill dropping device and has a different plow. Fig. 133 is the No. 4 Drill attachment, which added to No. 1 Wheel Hoe makes No. 4 Combined.

Fig. 234 represents a plow similar to the regular plow on Nos. 6, 7, 15, 16 and 22 drills. It is known to our customers as an anti-clog plow. If drill is wanted equipped with Fig. 234 in place of the regular plow, order by adding letter "D" to the number, or No. 4D.

If complete tool is wanted with Fig. 215 instead of corresponding parts sent regularly, specify by adding letter "B" to number of the tool, as No. 4B.

Three machines in one-Hill Seeder. Double Wheel Hoe. Single Wheel Hoe

No. 4, Fig. 83 - - - - - - Packed weight, 55 lbs. - - \$11.00

No. 5, as Drill Seeder only - - - 8.00 No. 40, with Side Hoes and Teeth only - 9.50





IRON AGE 1836 1911 BATEMAN MFG.CO. GRENLOCH, N.J. U.S.A.

No. 27 Double and Single Wheel Garden Disc Cultivator

This new combination in hand garden tools is for use in light soils where it makes the ground fine and loose.

No. 27, Fig. 364 - - - \$7.50 Packed weight, 41 lbs.

No. 28 Single Wheel Garden Disc Cultivator (same as No. 20 except discs in place of hoes and rakes) - - \$6.50

No. 29 Single Wheel Garden Disc Cultivator (same as No. 9 except discs in place of side hoes and rakes) - - \$5.75

It is not suited to wet or trashy ground. The discs can be set to throw the soil to the row or take it away. Can be used astride or



close, the standards and thimbles are changed—this is easily and quickly done. The discs are heavy steel, properly ground and will wear a long time.

Fig. 364 shows No. 27 complete—it is same as No. 1 Double and Single Wheel Hoe except discs in place of side hoes and rakes.

No. 28 is same as No. 20 Single Wheel Hoe (page 50) with discs in

place of side hoes and rakes. This combination is for working between rows only. No. 29 is same as No. 9 except discs in place of side hoes and rakes. Fig. 369, on page 45, shows attachment on No. 9 Single Wheel Hoe with wheel to go astride the row. Both in-throw and out-throw can be used on this tool, astride or between rows.

The attachment will be furnished separate for old Nos. 1, 9, and 20 when ordered.

The cut in the lower right hand corner shows another convenient combination—a single cultivator tooth is used between the disc gangs so that you get thorough cultivation from row to row.



A new combination that gives perfect cultivation



Two discs on each side in narrow rows of seed onions



No. 20 Single Wheel Hoe

A strong, light, durable, practical garden tool. When purchased complete, one pair each side hoes and rakes, three cultivator teeth of solid steel, and a landside plow are furnished. With these different working tools it fills every need of the gardener for cultivation, etc. In addition, it is built to take two different seed drills, and two fertilizer attachments, in each case, making complete, practical machines in themselves.

You can begin with the wheel hoe and add the other parts as you find they are needed.

The wheel on No. 20 is 16 inches high, and has $1\frac{3}{4}$ -inch tire. It is supported by two rigid arms of steel tubing, securely attached to a malleable frame casting to which all working tools

and the handles are attached. The handles are adjustable for height, and the tools may be attached in various positions and spacing for the necessary work.

See also new No. 28 on page 49

Single Weeder Attachment, Fig. 84

Pulverizes the soil and destroys the small weeds just appearing. One or more teeth can be removed to permit working in narrow spaces.

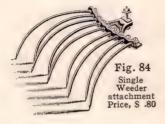
No. 20, Fig. 135, \$6.00

Packed weight, 28 lbs.

No. 21, with side hoes

only, \$4.00 Attachments, Figs. 170, 236, 216, 112, 33, 369, page 45, fit this tool





No. 15, Fig. 125, \$11.00 Packed weight, 45 lbs.

No. 15 Combined Single Wheel Hoe, Hill and Drill Seeder

We make this combination by putting the No. 6 Hill and Drill Seeder attachment, Fig. 134, on the No. 20 Wheel Hoe. Sows in continuous rows or drops in hills at 4, 6, 8, 12 or 24 inches apart, the change being

made instantly. We have described this seeder attachment fully on pages 46 and 47—it is exactly the same as used on No. 6 Combined. Special opening plows shown in Figs. 145 and 215, page 47, will also fit this tool. If the

customer wants only a Hill and
Drill Seeder, we can furnish our
Iron Age No. 16, which
is the same as shown in
Fig. 125, except that it



Fig. 134

No. 6 Hill and Drill attachment
Price, \$5.00

No. 16, Fig. 125 less tools, \$8.50

Fig. 125, except that it

does not include the working tools. Also, this tool will take the Nos. 25 and 26 Fertilizer attachments, shown on page 57, making complete distributor or fertilizer drill in each case.

IRON AGE 1836 BATEMAN MFG.CO. GRENLOCH, N.J. U.S. A.

No. 17 Combined Single Wheel Hoe and Drill Seeder



quoted on page 47.

If complete drill only is wanted we will furnish this machine without the working tools for the Wheel Hoe. When so ordered it is known as No. 18 Iron Age Drill Seeder. This tool will also take No. 25 and No. 26 Fertilizer attachments. With all these advantages of combination, Nos. 15 and 17 do not lose one single advantage of the original No 20 Single Wheel Hoe.

Fig. 127

No. 9 Single Wheel Hoe, Cultivator, Plow and Rake



attachments at the prices

A fine tool for the kitchen garden and poultry yard. The single wheel hoe is best where rows are narrow, as the work is done principally between them. Plants of small growth can be hoed both sides at once by placing the wheel on the left side. With the No. 9 the narrowest spaces can be worked, using but one cultivator tooth if necessary. Side hoes can be furnished as narrow as 4 inches for working between rows Does practically the same amount of work as

Nos. 1-20, but does not take drill attachment. It is a light, well built tool and having but one wheel, runs very steadily. The wheel is steel, 16 inches high—the frame consists of one piece of steel tubing, bent to the proper shape to give strength, and securely attached to the malleable casting that carries the working tools and handles. The latter are adjustable for height. The working tools include a pair each, side hoes and rakes, four cultivator teeth and landside plow. With the latter, deep furrows can be opened and cov-

Price, No. 9, Fig. 78, complete, \$5.25 Packed weight, 28 lbs. Price, No. 10, plain (hoes only) \$3.25

ered. You can hill such crops as potatoes, celery, etc. In poultry yards, big and little, the soil can be stirred thoroughly, work that is usually done with a special plow.

Attachments, Fig. 84, page 50, and Figs. 170-369, page 45, fit this tool. No. 29, price of which is given on page 49, is the disc form of No. 9.





No. 12 Wheel Plow and Cultivator

Designed for the small kitchen garden

of the laborer and mechanic who cannot afford much money for a garden tool, who has time only for the simplest work, but who, nevertheless, wants a nice garden with the least work possible. The No. 12 is low priced, but complete in itself for the work to be done. It has four tools as shown in the engraving—it will

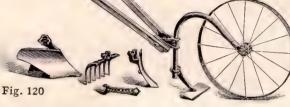
plow in all but hard ground, open furrows and cover them, hill growing crops, hoe, rake and cultivate. The average

weight with one working tool is about eight pounds, and it is easily carried wherever you want to work. It is used as readily as a common hoe, but is quicker, and does more good. Has the steel 16-inch

wheel and a steel tube arch

attached to a malleable frame

Price, Fig. 120, \$3.50 Packed weight,



casting. This tool, also, can be used to advantage in stirring the soil in poultry yards.

Scuffle hoes, like the one shown on the tool in Fig. 120, can be furnished in any width up to 12 inches.

No. 11 Wheel Plow

A light, graceful, low priced tool, that can be used as a wheel plow anywhere, but is especially recommended

for turning under accumulations in the poultry yard.

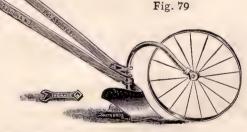
Price, Fig. 79, \$2.50 Packed weight, 15 lbs.



In the potatoes in a private garden, hilling the crop better than you could do it with a hoe and in a tenth of the time and easier



The chicks fairly run after the plow—they'd rather scratch for a living than have it thrown to them



Scatter some oats and turn them under with the plow, so the chicks will have to scratch for the feed. The tool will pay for itself in this way alone, in the smallest poultry yards, and several tools can be used to advantage on a large poultry farm—the chicks will be healthier and more profitable. Has bicycle construction, steel wheel (16-inch) and steel tube frame. It will plow from three to four inches deep, and throw a furrow four to six inches wide. Easy to push and perfect in its work.



No. 19-C Wheel Cultivator and Plow



No. 19 Wheel Plow and Cultivator

This is the old form of this tool and is furnished when ordered, although we believe the new No. 19-C is bound to be more popular. No. 19 has a malleable rake in place of the set of three cultivator teeth on one bracket.



"Gem" Single Wheel Garden Hoe

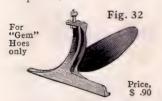
A thoroughly practical garden tool that has given entire satisfaction to many thousands of users. The "Gem" is largely built of steel and malleable iron,—wheel and handles may be adjusted for height, and tools adjusted on the frame as needed.

Fig. 30

All tools are fastened in notches on under side of the frame they will not get loose and slip when working. The wheels are adjusted in height by moving frame braces up or down on ratchet at front end of frame. It is light, compact, and has the

necessary strength to make it durable.
The working tools include set of fine, slender cultivator teeth, each stamped from one piece of steel, and guaranteed for thorough work, especially in hard soil—two sizes of scuffle hoes for working between the rows, and a pair of plows which can be used together as one plow Price, Fig. 30, \$5.00 or separate for hilling. The scuffle hoes wide weight, 25 lbs. With five teeth only, \$3.75 wide. A special size, six inches wide, will be furnished when ordered.

Fig. 32 Landside Plow can be applied only to "Gem" Wheel Hoes, Single or Double, and is furnished as an attachment Opens a straight, deep furrow



"Gem" Double Wheel Hoe

Having two wheels instead of one, this tool can be used astride the rows in first and second workings of the crop. Side hoes are furnished instead of scuffle hoes, for close work. The axles are made to slide together like the parts of a telescope and bring the wheels close up, so that the tool can be used as a single wheel hoe, between the rows. The frame is exactly the same as used on the Single Wheel "Gem" and has same adjustments for tools and height of wheels.

Takes Fig. 33, Onion Set Gatherer, shown on page 45.



Fig. 31. Price, \$6.00. Packed weight, 30 lbs.

BATEMAN MFG.CO IRON AGE GRENLOCH.N.J.US.A

"New Model" Seed Drill

A seed drill with 30 years' success behind it-popular with seedsmen and market gardeners-a "Model" in the truest sense of the word.

We have exact regulation of seed discharge by using an eccentric index or indicator which adjusts the slide for seed opening exactly where you want it.

There is no series of holes which have to be used whether they answer or not. The index is in plain sight when the tool is in operation—the names of the principal seeds are shown on it-no reference table is necessary. While we provide this marked index, we suggest that each

Price, Fig. 28 - - \$8.00 Packed weight, 50 lbs. Exact adjustment for flow of seed Marker adjusted either Fig. 28 Covering attached so you can roll soil light or heavy

man adjust at the mark, a trifle ahead or to the rear of the mark, according to his preference for sowing—every man can suit himself but he gets an exact adjustment which he cannot get elsewhere The flow of seed can be instantly stopped by a swinging cut-off, operated by a cord and ring on the handles. Prevents loss at ends of rows and is preferable to a slide cut-off that is likely to be jammed by falling seed.

The marker is held firmly in place and is easily adjustable. The covering wheel is attached to a swinging frame and by varying pressure on the handles, the operator can roll lightly or otherwise. The main wheel is high with wide rim that keeps it from sinking into soft earth. Unless otherwise ordered, we furnish all these drills with steel opening plow. It is reversible from top to bottom and



Fig. 29

adjustable for depth. (See Fig. 320.) When wanted with opening plow, shown in Fig. 234, the complete tool should be ordered as No. 2 New Model This plow is practically clogproof It is sold as an attachment for any New Model Seed Drill.

Our new No. A22 Opening Plow is used largely for sowing onion seed for sets. This plow will scatter seed in a row over three inches wide. (See Fig. 304.) If drill is wanted fitted this way, order "equipped with A22 plow."



opening plow,



Price, \$.50



No. 8 Hill and Drill Seeder

Has capacity for the larger seeds and yet accurately hills and drills all of the smaller varieties. It is light, and simply constructed, but strong enough to do its work The wheel is steel, 15 inches high with two-inch tire.

Has 4-quart hopper, revolving brush agitator and force feed for seed, clog-proof opening plow, accurate hill dropping device, (drops 4, 6, 8, 12 and 24 inches apart), flexible spring coverer, convenient shut-off, adjustable marker.

Fig. 119 shows special plow for sowing seed for onion sets-sows over three inches wide. Can be used on this tool only.



Fig. 119 Price, \$.50

IRON AGE 1836 BATEMAN MFG.CO. GRENLOCH, N.J. U.S. A.

No. 22 Combined Fertilizer Distributor, Hill and Drill Seeder

Fig. 388
No. 22 Drill
Attachment
Price, \$5.00

And in
practic
compe

While commercial fertilizers are more convenient and more pleasant to handle than manure and are practically necessary in order that you may compete with your neighbor,

they are not profitable, unless applied in an economical way. The gardener must know not only what kinds of

Price, Fig. 130, \$18.00 Packed weight, 65 lbs. Net weight, 50 lbs. Price, Fig. 132, \$13.00 Packed weight, 40 lbs. Net weight, 27 lbs.

Right forcing makes more tender crop—sells quicker, at higher prices Cultivating tools cannot be applied.

fertilizer to put on, but how. There is where our No. 22 Iron Age comes in—it applies the fertilizer in connection with

the seed just where it will do the most good, and without injury

> Although on asmaller scale, the distributor

is built on practically the same lines as the one used on our Planter, a complete description of which is The flow of fertilizer is

shown on page 6. The flow of fertilizer is regulated by a gate, adjusted by thumb screw, and is divided in the spout, at the discharge opening, into two streams. The brass wire distributing tubes, are flexible to meet necessary adjustment of the plows. The tubes will not rust—other parts likely to rust are galvanized. Fertilizer hopper holds four quarts. The fertilizer distributor has two opening

The fertilizer distributor has two opening plows—one or both may be used, and they are adjustable for depth and width also—the fertilizer can be placed as near the seed as you wish or in the same line as the drill. Flexible coverers follow the plows.

The wheels are steel, 16 inches high, light and strong. Below we explain another use for this tool when set up, as

No. 23 Fertilizer Distributor

To be used as a Side Dresser. It is simply a part of No. 22—without the Hill and Lrill Seeder attachment and with small two-wheel truck at the rear. The tool can be purchased complete in this form and the Hill and Drill Seeder attachment added if needed later.

Broadcasting fertilizer before seeding is wasteful. Try applying part of the fertilizer in the row at seeding time and then use this tool to side dress with quick-acting fertilizers, such as nitrate of soda. This will force the growth, make crop more tender, will sell quicker and at higher prices.

The Hill and Drill Seeder attachment used on this tool is about the same as used on our Nos. 6 and 15 Combined -the only difference being construction changes necessary to attach and operate it on No. 22. It is a complete attachment with its own opening plow and flexible coverer - opens its own trench through the mixed fertilizer and soil, and deposits the seed, without injury, in hills or con-



No. 22 in the field—spreading the fertilizer and drilling seed in one operation

IRON AGE 1836

No. 25 Single Wheel Fertilizer Distributor

A combination of our No. 20 Single Wheel Hoe Frame and a practical Fertilizer Distributor attachment,

for the proper handling of commercial fertilizers.

With it, fertilizer may be sown across the bottom of the furrow or on either side, so it will not come in

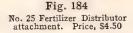
contact with the seed, possibly injuring it. Or, you can

use the tool for side dressing of crops, forcing earlier maturity and making a more tender and salable crop. The tool is light and convenient to get around with. The capacity of the hopper is a



Spreads fertilizer, without waste, just where you want it.

Price, Fig. 189, \$8.00 Packed weight, 28 lbs.

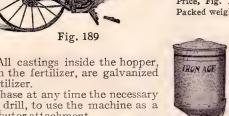


IRON AGE

little over four quarts. All castings inside the hopper, that come in contact with the fertilizer, are galvanized

to prevent rusting. A revolving wheel feeds the fertilizer. You can buy the tool as a Distributor and purchase at any time the necessary working tools, and all attachments, including the drill, to use the machine as a Single Wheel Hoe and Drill Seeder, or buy the Distributor attachment

and apply to your No. 20 frame.



No. 26 Fertilizer attachment Price, \$5.00

Fig. 235

No. 26 Fertilizer Drill

This tool is made by attaching No. 26 Fertilizer Drill to No. 20 Single Wheel Hoe, and is sold as a complete tool, less the working tools, or as an attachment.

This tool makes its

Fig. 237



own furrow, drills the fertilizer and covers it all in one operation.

> Sows fertilizer from ¾ to 3 inches in depth. Islight draft and convenient to handle. As it is often used in advance of seed drill, it is desirable that a marked furrow be left as a guide—so we furnish a marker wheel as shown in Fig. 303. Order Nos. C154, C155. (Frame and Wheel.)

Nos. 25 and 26 when sold as attachments can be applied to our No. 1 Double and Single Wheel Hoe, as

well as to the No. 20.



Price, Fig. 237, \$8.50

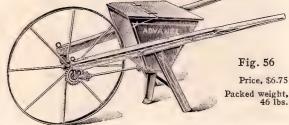
Packed weight, 40 lbs.

Fig. 303 Special marker wheel and frame, \$1.75

"Advance" Fertilizer Drill

The best low-priced distributor on the market. Also, a first class tool for drilling peas, beans and corn. The distributing disc is galvanized iron and will not break or rust. Hopper holds 18 quarts and is lined at the bottom with galvanized iron. A steel agitator keeps the seed moving, and a lever with thumb nut controls the seed

opening. A loop is fastened at each side of the wheel so that horse can be used—a small boy can operate it easily. The feed is operated by gearing and is positive. A lever throws in and out of gear. The wheel is steel—light, yet strong. We use a high wheel because it runs easier.



IRON AGE BATEMAN MFG.CO GRENLOCH N.J. U.S.A

Variety Machine

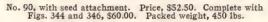
This tool is all that the name means—the greatest variety of farm work can be done with it—from early spring, through the summer, and in the fall.

Purchasers of a machine of this kind have the distinct advantage of buying the simplest form, and being able at any time to add necessary attachments for other work.

The machine will outwear many tools—an attachment will take the place of a worn out machine-change in location and conditions, or a new crop to be grown at a profit may show the need of attachments. Then, opening plow, fertilizer distrib-

utor, seed, double spreader, or ridging attach-

ments can be bought.
No. 90 Variety. Fig. 343. Shows the machine at work as a row maker—opening the furrow, distributing fertilizer and covering it, full and free, in a low ridge with a pair of 16-inch discs, also marking the next row. The cut shows how discs can be raised for turning. Fig. 343 includes pair of steadying wheels and necessary parts to attach, Fig. 344. The wheels run just ahead of the discs, on the sides of the furrow, and steady the machine for proper covering.



Packed weight,

Fig. 345

The opening plow is a double moldboard—plows any depth down to eight inches. Fertilizer distributor is practically the same as Fig. 328, page 6, on the planter—capacity 100 lbs. Fertilizer falls in two streams, one each side of the furrow—operator can prevent waste by closing the gate. The wheels prevent waste by closing the gate. The wheels are 32 inches, steel, 3-inch tires, with sharp deep flange on the outside—they keep the machine steady and prevent slipping on side hills. They are adjustable on the axle from 36 to 50 inches wide to allow for different width rows.

Seed attachment. Fig. 345 shows No. 90 complete with this attachment—in this form it opens the furrow, distributes the fertilizer, plants corn, beans or peas, and covers in one operation. Is shown in operation at top of this page. The best part of this combination

> any part of this work. The seed attachment is under the seat, close to the ground -seed does not have far to drop. Sows accurately - in drills or drops in hills at 12, 16, 20 or 24 inches apart—the changes are made quickly. This attachment is especially valuable for planting peas or fodder corn. It is practically the same as seed attachment on Iron Age potato planter except that it has a square seed box instead of the round galvanized can. See Fig. 267, page 7. Four

and beans, one for peas. Two-row marker attachment. Fig. 346. The solid parts show what is necessary to complete No. 90 for this purpose.

Solid parts show marker, as attachment only. Price, \$7.50.

Raised clear of ground when this purpose.



Fig. 343 As a row maker. Price, \$46.00. Packed weight, 360 lbs.

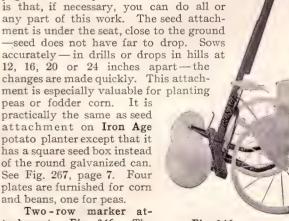


Fig. 344

Solid parts show steadying wheels included

with Fig. 343

Fig. 346 turning.

BATEMAN MFG.CO. 1836 RONAGE GRENLOCH, N.J., U.S.A.

Variety Machine—Continued



No. 92 row marker, includes solid parts and covering frame in Fig. 344 Price, complete, \$29.00. With 6-foot axle, \$30.00 Packed weight, 350 lbs.

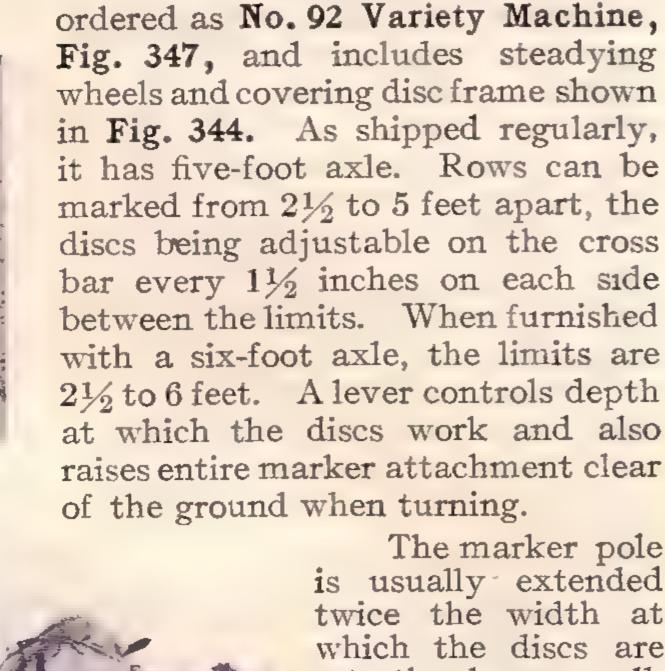
No. 91 as an Asparagus Ridger. Fig. 280 shows this form of the variety machine in operation.

Ridges asparagus to support and protect the lower part of the stalks so they won't be broken in cutting season.

Repeated cutting and rains wear the ridges down and weeds get thickthese things make ridging important after each cutting. The loose soil is thrown up on the beds by 20-inch discs—they are adjustable for angle, width and depth. Can be used also for ridging celery and for making higher and larger seed beds than with the regular No. 90 Variety Machine.

Can be furnished as an attachment only and includes pair of discs with the necessary steel supports and braces. Price, \$6.00.

No. 145 Asparagus Ridger. Fig. 302. Built for growers of white asparagus as distinguished from those who do not cover all of the grass by ridging, but cut it green. No. 145 has 36-inch wheels and 24-inch discs—this allows the high ridging which the growers of white asparagus want—also makes a wide crown of supporting soil that practically covers the stalk for bleaching. This ridger can throw a crown that will be 18 inches high and 24 inches wide. The leveler is hung to rear of frame with blades adjustable both as to height and angle, and the whole leveler attachment is provided with a foot lift to prevent breaking off of any grass that has come through. The whole ridger with leveler is raised clear of the ground at end of the rows by movement of one lever. Has easy draft.



When the machine is wanted as

a two-row marker only, it should be

The marker pole is usually extended twice the width at which the discs are set, the horses walk straddle the new mark and the rows come just right.

The No. 92 is used for check-rowing corn land and preparing ground for planting other crops.

The flanged steel tires of the wheels prevent slipping on hillsides and straight rows are made, even there.

Double spreader, Fig. 265, and leveler, Fig. 295, page 7, will be furnished with or for this machine when ordered.



Fig. 280 No. 91 ridging asparagus. For growers of the green variety. Price, \$30.50. Packed weight, 305 lbs.

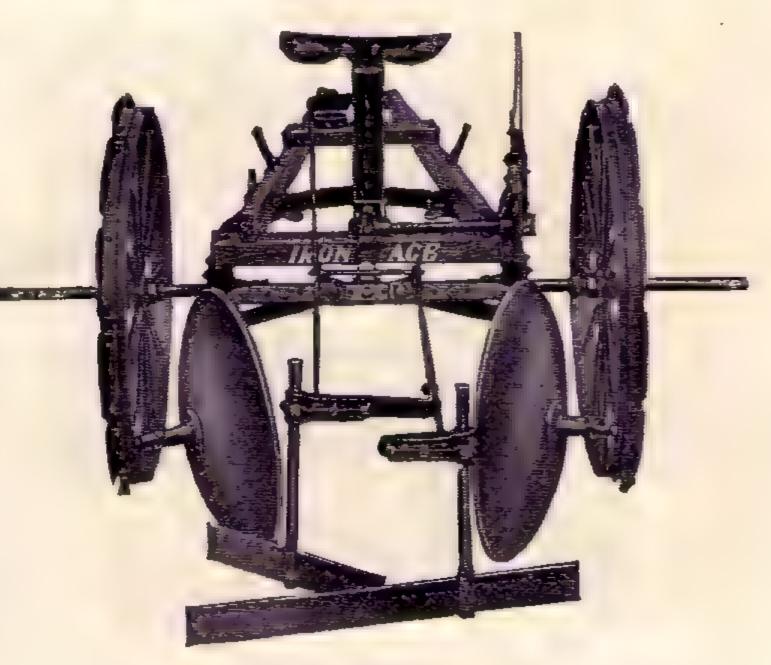


Fig. 302 No. 145 ridger. For growers of white asparagus Price, \$42.00. Packed weight, 358 lbs.

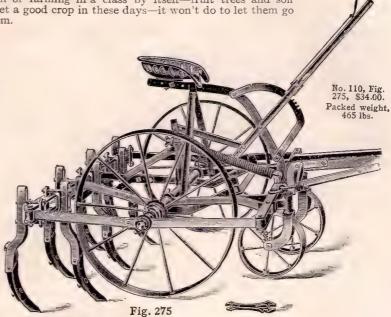


Orchard and Variety Cultivator

Fruit raising is a branch of farming in a class by itself-fruit trees and soil require special attention to get a good crop in these days—it won't do to let them go as has been the general custom.

Thorough and frequent cultivation are quite as necessary, in the opinion of the orchard man, as any other part of the work or for any other crop—it pays to do it. Fig. 197 shows the Iron Age with extensions for working under the branches, near the trunks of the trees, without injuring the branches.

With this machine. cultivation is shallow, so the roots will not be injured, and yet all the ground is cultivated and a fine dust mulch formed.



This helps to keep the moisture around the roots

in dry season, and to give the right kind of root food. With this machine you can get over the ground

quicker and more often—every time counts.

Fig. 275 shows the No. 110 as shipped regularly—cultivates 4 feet 2 inches wide. With orchard

extensions, it will cultivate 6 feet 9 inches wide. For cultivating under low branches, seat and pole can be set over with very little side draft resulting. (Fig. 198.) The extension complete includes four extra

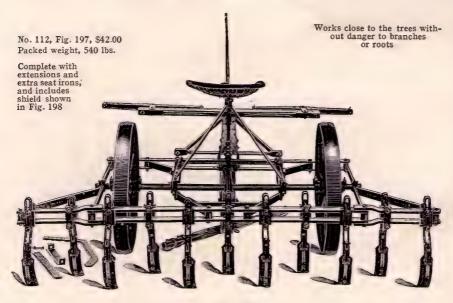


Fig. 197

teeth and frame extensions to support them, parts for extension of the seat, and steel fender for right hand side to protect trunks of the trees. When wanted with the cultivator, order No. 112. Price, attachment only, \$8.00.

A variety cultivator, also. The standards are adjustable in their positions on the frame, may be reduced or increased in number, take several different styles of teeth may be used for hilling, fallow work in the open field, as a furrower, and in many other special ways.

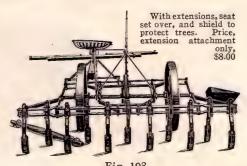
IRON AGE GRENLOCH, N.J.,US.A.

Orchard and Variety Cultivator—Continued

Construction. Main wheels are steel, 28 inches with 3-inch tires. Both wheels have an adjustment of 7 inches on the axle—can cultivate row crops at various widths can set the wheels out when extensions are used, steadying the machine—can adjust for furrows already made can set the wheels in, as further protection against low branches.

The caster wheels take off all neckweight and help the operator to control working depth.

The frame is steel and will stand severe work. The standard's top part is in one piece of steel. A 13-inch steel



A pull on the lever and push with your feet at the same time, raises the gangs easily, even when extensions are used. A heavy coil spring carries the weight in tilting.

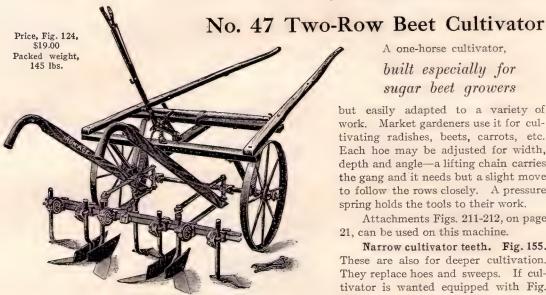


Fig. 124

A one-horse cultivator, built especially for sugar beet growers

but easily adapted to a variety of work. Market gardeners use it for cultivating radishes, beets, carrots, etc. Each hoe may be adjusted for width, depth and angle-a lifting chain carries the gang and it needs but a slight move to follow the rows closely. A pressure spring holds the tools to their work.

Attachments Figs. 211-212, on page 21, can be used on this machine.

Narrow cultivator teeth. Fig. 155. These are also for deeper cultivation. They replace hoes and sweeps. If cultivator is wanted equipped with Fig. 155 it will be furnished at the same



Stirring tooth attachment for deep cultivation of centers of beet rows

Fig. 155 Price, \$.50

price, but you should order by adding letter "B" to the number, as No. 47B.

Combined weeder and fender. Fig. 175. For the first workings of beets. The teeth stir the soil thoroughly and destroy the weeds-fenders keep the soil from falling on the young plants. Each standard is adjustable in angle and depth.

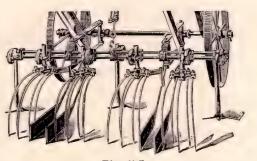


Fig. 175 Price per set, 2 pairs weeders, 2 pairs fenders, \$6.00



Barrel Truck, Cart, Leaf Rack, Etc.



The barrel is picked up by the truck, carried to its place and dropped without your touching it.

The weight is balanced on the axle—none of it is carried on the handles—you just have to push the truck along. There are no castings to break—steel braced and steel fitted throughout. The width of the truck is 39½ inches (outside). It has steel wheels with 2½-inch tires unless otherwise ordered. We can furnish with 1½-inch or 3½-inch steel, or 1½, 2½ or 4-inch wood wheels. The barrel is well made. The truck will handle other barrels—spirit or oil barrels for instance—if extra trunnions (price per pair \$ 40) are used.

extra trunnions (price, per pair, \$.40) are used.

Fig. 350. The solid part shows barrel stay rod attachment. It keeps barrel from tipping and contents splashing, when truck is in motion. Is furnished only when ordered. Will fit old trucks. When wanted with truck, add letter "S" to the number, as No. 2S.

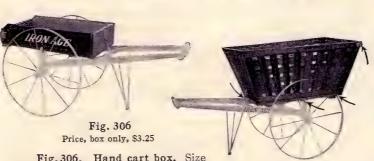


Fig. 306. Hand cart box. Size $37 \times 23\frac{1}{2} \times 8$ inches deep. Includes trunnions and spring catch. Attaches in the same way as the leaf rack. Tail board lifts out in the usual way.

Fig. 307. Leaf rack. For taking care of leaves, grass and trash on the lawn, in the garden, and may be used handily about the barn when you are cleaning up. Shipped knocked down, and can be folded flat and put away in small space. Arrows show tail board fittings, trunnions and spring catch to hold it at the back. Size, $42 \times 28 \times 21$ inches deep. Is light weight, but well put together. Requires no bolts to attach—simply lay it on the truck.

Fig. 308. The sprinkler attachment shown is used for watering lawns and walks, a great convenience for home, parks, railroad stations, cemeteries, etc. It consists of perforated steel pipe and fittings. A baii valve on the right side controls the water.

No. 1—Without barrel, steel wheels, 1½ in. - - - \$7.00 No. 2—Without barrel, steel wheels, 2½ in. - - 7.75 No. 3—Without barrel, wood wheels, 1½ in. - - 8.50 No. 1W—Without barrel, wood wheels, 1½ in. - 8.25 No. 2W—Without barrel, wood wheels, 4½ in. - 9.25 No. 3W—Without barrel, wood wheels, 4½ in. - 10.75 Prices include one pair trunnions With barrel, add \$3.00

Fig. 350 truss.

We are the original inventors of this style of Barrel Truck—there have been many intations but none quite as good. Fig. 305 shows construction.

Fig. 351
Solid part
shows portion of side
irons and
truss. Price,
attachment
only, \$3.50



Fig. 351. The solid part shows part of combination side irons and truss rod. This attachment is to keep wheels from spreading at top after long continued carrying of heavy loads. It is to guard against rough usage only, but does add strength to truck. Is furnished as an attachment. If wanted with truck, add letter "T" to the number, as No. 2T. Add \$1.00 to above prices.



Fig. 307

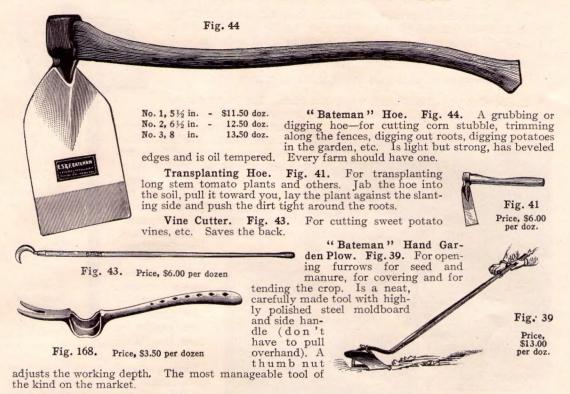
Arrows show spring catch, trunnions,

tail board connections.

Price, leaf rack only, \$5.50



Small Tools for Farm and Garden



Dandelion Puller. Fig. 168. A handy tool with which to keep your lawn cleaned up.



260. Some prefer to use a concave knife-they think it takes hold better. Such a tool is a necessity for large or small growers—the crop will be gathered in better shape, and time saved is just as good as money in

Transplanting Trowel. Fig. 40. For small plants. Used by truckers in

Fig. 260. Price, \$4.00 per dozen

Fig. 128 Garden Dibble Price, \$3.25 per doz.

No. 1

Fig. 45. Price, \$3.00 per dozen

No. 1 Asparagus Knife. Fig. 45. For those who want the flat kind.

sweet potatoes, cabbage, cauliflower, etc. One piece of steel with wood handle. Don't forget that to properly transplant, the holes should all be the same depth, and the plants supported against a slanting side of the hole. Then close up the soil around the roots.



Fig. 40 Price, \$3.75 per doz.



Horticultural Row Index

It may seem foolish, or at least needless, to spend money for things of this kind—a stick and piece of paper may answer the purpose, but certainly will not be as durable nor look so trim as this Row Index.

For use in private gardens, on trial grounds, experimental plots, in greenhouses, parks, etc.

Shows what you planted, and where and when. The labels can be taken out and filed for future reference. They are protected against the



weather, dirt, etc., by transparent celluloid sheets. The label holder and frame are stamped from two pieces of steel, and the flat end of the steel standard goes through a double slit in holder on the back to keep label in the frame. Holder and frame are japanned to prevent rust. The card label

is a printed form, size $2\frac{5}{8}$ by $1\frac{2}{4}$ inches. Extra labels furnished when needed. The standards are made in three lengths as shown in list.

Fig. 352
Three sizes
No. 5,
8 in. \$.15
each
No. 5A,
18 in. \$.18
each
No. 5B,
24 in. \$.20
each

Home gardeners, seed men, and professional horticulturists find such an index of great value and convenience in their business.

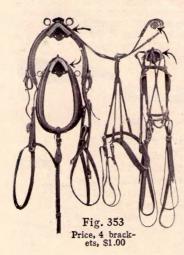
Harness Brackets

If the lack of a thing is, to you, the plain reason for the loss of chunks of money, you are not long in getting that particular thing. Why not apply the same remedy to the little things that mean considerable when taken together—that mean your convenience, a saving in wear, a lasting influence for your men, order and neatness that is pleasure to see?

Every farmer, every livery, every private stable

should have a set of these brackets. They will keep your harness in shape, which won't be the case if you hang the parts on old-fashioned hooks or nails, or throw it in the corner—somewhere. These brackets will teach your men and boys order—that there is "a place for everything" and every thing should be in its place. Instead of one hook from which you have to pick each separate part of your harness, you will have these four brackets. If one part is missing, you can see it at a glance, and know which part it is.

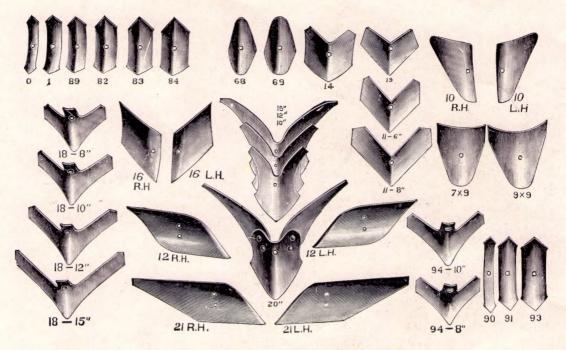
The brackets are made of gray iron, painted black and furnished with the necessary screws for fastening. The four parts are for the saddle, collar, crupper and bridle,



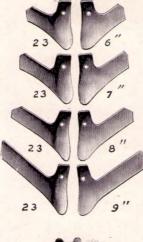
It is there as long as you want it to be

IRON AGE 1836 BATEMAN MFG. CO. GRENLOCH, N.J. U.S.A.

Cultivator Points and Steels



No.	0,	11/4	inche	es .		-			00	0.11
- "	96,	11/2	4.6	(no	C	ut)		.11
	1,	2	6.6							.11
6.6	89,	21/2	6.6							.11
	82.	3	6.6							.12
66		31/2	6.6							.14
6.6		4	6.6							.15
6.6		4	6.6							.13
		41/2	6.6.							.15
6.6	,		or L.							.25
6.6			ches							.25
		8								.30
6.6			or L.		•					.30
					•					
	,		ches							.25
6.6	,		or L.							.25
	18,		ches					*		.29
		10	6.6							.33
6.6	18,	12	66							.38
6.6		15	4.6							.45
6.6	19.									.30
6.5			or L.							.50
			ches,							.28
			ii	11.						
	23,	1								.32



	9.6	
95-6- L.H.		95-6 RH.

No. 23, 8 inches, R. or L	\$0.37
" 23, 9 " " .	.42
10-inch Furrower	1.00
12 "	1.20
15 "	
20 "Imp. " (no cut))	2,25
Reversible point and bolt	
for above (no cut))	.25
20 - inch Furrower, Adi.	
Wings	1.95
Shovel Blade, 7 x 9	.40
" " 9x9	.50

For Riding Cultivators Only

No.	90,	11/4	inc	hes					\$0.18	
6.6	97,	2		6.6	(n	0 0	ut)		
6.6	91,	21/2		66		M			.20	
4.6	93,	31/2							.22	
6.6	94,	8-in	ch	Swe	ep				.28	
6.6	94,	10							.32	
66	95,	6	"	Side	3	H	oes	5.		
								,	50	

IRON AGE



FARMAND GARDEN IMPLEMENTS



RACINE - SATTLEY CO., Denver, Colo